The Incidence, Valuation and Management of Tax-related Reputational Costs: Evidence from a Period of Protest

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January 2018

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Keywords: *Tax avoidance, reputational costs, social movements, social protests, media attention*

Acknowledgements: Prior to his untimely death, our coauthor and friend Dan S. Dhaliwal was the department head and Frances McClelland Endowed Chair at the University of Arizona. We wish to thank RavenPack for providing company sentiment data. We also thank Michael Donohoe, Charlie Liu, Sonja Rego, Joe Schroeder, Oktay Urcan, Brian Williams, Junwei Xia and workshop participants at Ball State University, Indiana University and the University of Illinois for helpful comments.

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ABSTRACT:

We examine the incidence, valuation and management of tax-related reputational costs during 2011, a year of extensive social protest that represents an exogenous shock temporarily increasing scrutiny of corporate tax avoidance. We report three main results. First, consistent with firms incurring tax-related reputational costs, we find that tax avoidance is positively associated with negative media sentiment during the protest period (i.e., 2011). Second, consistent with tax-related reputational costs reducing firm value, we find that a hedge portfolio long (short) in low (high) tax avoidance firms generates significant positive abnormal returns during the protest period. Third, consistent with firms managing reputational damage, we find that firms experiencing the largest reputational costs during the protest period exhibit higher tax rates in the following years. In supplemental analyses, we provide assurance that our results are due to reputational costs and not political costs by re-estimating our analyses after excluding firms operating in politically-sensitive industries; all inferences hold. We also conduct placebo analyses to confirm that our results only exist during the protest period. Collectively, this study provides evidence that firms incur tax-related reputational costs, but only during periods of increased scrutiny.

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"...Companies face unprecedented scrutiny and reporting of their tax affairs by advocacy groups and the news media, often hurting brand reputation and — in the worst cases — shareholder value, even when such coverage is unwarranted or inaccurate."

- *Ernst & Young, in the 2011-2012 Tax risk and controversy survey (18 November 2011)*

1. Introduction

In 2008, the collapse of Lehman Brothers triggered a global financial crisis. In the years that followed, widespread discontent grew over weakening economic prospects, increasing income inequality and a growing belief that governments primarily serve corporations and only the wealthiest individuals. This discontent triggered a global wave of protest that reached the U.S. in 2011. Initial protests included the "Walkerville" and "Bloombergville" occupations in Wisconsin and New York and numerous smaller protests sponsored by activist groups such as U.S. Uncut and Rebuild the Dream. These protests set the stage for the Occupy Wall Street movement which held "occupations" in over 460 U.S. cities and attracted more media coverage than any grass roots movement since the 1960s (Graeber 2013; Taylor 2017). Although these protests targeted a series of interrelated, socioeconomic problems including income inequality, corporate greed and regulatory capture, corporate taxes and tax avoidance garnered substantial attention as important components of those problems and the proposed solutions. In this study, we argue that this period of social protest represents an exogenous shock that temporarily increased scrutiny of corporate tax behavior. As such, we use this unique setting to address an important but unsettled question within the tax avoidance literature: do firms incur tax-related reputational costs?[1]

To address this question, we conduct our analysis in three stages. In the first stage, we investigate whether tax avoidance is associated with more negative media sentiment during 2011

[1] Public protests are one of the most common tactics utilized by social movements (King and Soule 2007). Viewed more generally, the Occupy Wall Street "movement" is a protest that, along with the other protests discussed in this paper, comprise the U.S. component of a larger global movement in response to the 2008 financial crisis.

(hereafter "the protest period") than during the pre-protest (2009 to 2010) and post-protest (2012 to 2013) periods. We use long-run measures of effective tax rates (ETRs) ranked by industry-year to proxy for tax avoidance since long-run ETRs more accurately measure a firm's tax avoidance (Dyreng, Hanlon, and Maydew 2008) and the media and tax watchdog groups such as the Citizens for Tax Justice (CTJ) often focus on taxes over a multi-year period (e.g., CTJ 2004, 2011; Kocieniewski 2011a; Sloan 2011; Buchheit 2012; Eichler 2012). We use RavenPack news media sentiment data to measure the negativity of a firm's media attention. We find that high levels of tax avoidance are positively associated with negative media sentiment during the protest period, but not during the pre- and post-protest periods. These results support our assertion that tax avoidance garnered significantly more negative media attention during the protest period. Moreover, in the context of the social movement literature, evidence of an association between tax avoidance and negative media attention is itself evidence of "mediated" tax-related reputational costs (King 2014).[2]

In the second stage, we investigate whether high tax avoidance firms are valued less than low tax avoidance firms during the protest period relative to the non-protest periods. To do so, we construct a hedge portfolio that takes a long (short) position in firms exhibiting low (high) levels of tax avoidance. We then examine whether the portfolio generates a larger abnormal stock return during the protest period relative to analogous portfolio returns during the pre- and post-protest periods. We find that the portfolio generates significant positive abnormal stock returns during the protest period but insignificant returns during the pre- and post-protest periods. These results suggest that high tax avoidance firms are valued less during periods of increased tax scrutiny when firms are most susceptible to mediated tax-related reputational costs.

In the third stage, we investigate whether firms exhibiting the largest mediated reputational costs (i.e., the largest increase in negative media sentiment) during the protest period

[2] King (2014) argues that social movements that attract negative media attention to a corporation result in a "mediated disruption" that threatens corporate reputation. For simplicity, we refer to this as a mediated reputational cost.

engage in less tax avoidance in the post-protest period. We find firms experiencing the largest mediated reputational costs during the protest period exhibit higher ETRs (i.e., lower levels of tax avoidance) in the post-protest period. These results suggest firms attempt to manage tax-related reputational costs.

In supplemental analyses, we first investigate whether our protest window is unique and represents a period of increased scrutiny of corporate tax avoidance. Specifically, we conduct placebo analyses in which we repeat our analyses after resetting the protest period, one year at a time, to a year between 2002 and 2010. As expected, our results do not hold when the protest period is arbitrarily set to a year outside of true protest period. Next, because it can be difficult to distinguish between political and reputational costs resulting from media scrutiny, we examine whether our results are driven by firms operating in politically-sensitive industries. We repeat all three stages of our analyses after excluding firms in politically-sensitive industries and find that all inferences continue to hold. Collectively, the supplemental analyses provide evidence that (1) the 2011 protest period represents a unique period of increased scrutiny of tax avoidance activities and (2) it is unlikely that our results are due to political rather than reputational costs.

The results presented in the study are important for several reasons. First, this study contributes to the tax avoidance literature examining the incidence of tax-related reputational costs. Despite anecdotes suggesting corporate tax avoidance poses a significant risk to corporate reputation (e.g., Baker 2012; Shulman 2009), large sample evidence on the reputational costs of tax avoidance is scarce. To date, surveys provide the most compelling evidence that managers perceive tax avoidance as a substantial threat to corporate reputations (Ernst & Young 2014; Graham, Hanlon, Shevlin and Shroff 2014). However, existing large sample studies provide limited evidence on the reputational costs of tax avoidance (Austin and Wilson 2015; Gallemore, Maydew, and Thornock 2014). Unlike prior studies that are based on analyses that implicitly assume that the reputational costs from tax avoidance are relatively constant over time (Austin and Wilson 2015; Gallemore et al. 2014), we focus on a period of increased scrutiny of corporate

tax avoidance.[3] Our results provide some of the first large-sample evidence suggesting that firms *do* incur tax-related reputational costs, but potentially only during periods of increased scrutiny of corporate tax avoidance.

Second, this study contributes to the literature examining how reputational damage affects firm value. Whereas prior studies generally focus on reputational damage resulting from firm-specific events such as earnings restatements (Hennes, Leone, and Miller 2008) and lawsuits (Van den Broek, Kemp, Verschoor, and de Vries 2012), we focus on reputational damage driven by forces external to the firm that alter the public perception and scrutiny of corporate tax avoidance. In doing so, we provide evidence on how shifting perceptions of corporate behavior can affect firm value and on how firms can manage those reputational costs.

Third, this study contributes to the literature examining the role of the media in the dissemination, perception, and valuation of accounting information. Whereas prior studies generally focus on the media's role in the dissemination of accounting information (e.g., Miller 2006; Bushee, Core, Guay, and Hamm 2010; Dyck, Morse, and Zingales 2010; Li, Ramesh and Shen 2011; Drake, Guest, and Twedt 2014), we focus on the media's role in shaping the public perception of such information. In doing so, we provide evidence consistent with media attention altering the valuation of accounting information and, ultimately, altering corporate behavior.

Finally, this study provides evidence on how activist groups influence corporate behavior in an accounting context. One study examining how activists affect corporate behavior—Dyreng, Hoopes and Wilde (2016)—also examines how public pressure levied by an activist group affects corporate tax behavior.[4] However, our study varies from and complements Dyreng et al.

[3] Chen, Powers and Stomberg (2015) examine whether tax avoidance attracts negative media attention using a hand-collected sample of firms from 2009 to 2014. They select their sample period "because of the dramatic increase in media coverage of taxes" but do not examine whether media attention or the consequences of that attention change during their sample period. While they find that firm-specific negative media coverage has financial reporting consequences, they find no evidence that it results in a reduction in tax avoidance. The collective results presented in Chen et al. (2015) and in our study suggest that aggregate media sentiment, rather than firm-specific coverage, drives tax-related reputational costs. These conclusions are similar to those found in the executive compensation literature suggesting that aggregate media sentiment influences executive compensation practices (Kuhnen and Niessen 2012), while firm-specific media coverage does not (Core, Guay and Larcker 2008).

[4] Although several studies also examine the impact of social activism on corporate disclosure practices (e.g., Islam and van Staden 2017; O'Sullivan and O'Dwyer 2015), changes to disclosure practices do not have direct and

(2016) in important ways. The results in Dyreng et al. (2016) indicate that activist groups can affect corporate behavior of politically-sensitive firms by applying public pressure via traditional regulatory and political channels.[5] The results in this study indicate that activist groups can challenge corporations more generally by increasing scrutiny of specific behaviors and threatening the reputation of corporations engaging in that behavior. Collectively, both studies complement one another by providing evidence that activist groups can affect corporate behavior by applying both political pressure, as evidenced by the results in Dyreng et al. (2016), and reputational pressure, as evidenced by the results in this study.

2. Prior Literature and Hypothesis Development

2.1. Tax Avoidance and Reputational Costs

Corporate income taxes are a non-discretionary expenditure imposed by the government that all profitable firms must incur. Although income taxes are imposed at specified statutory rates, firms can implement tax avoidance strategies to reduce the firm's tax liability. A growing stream of literature examines the determinants of corporate tax avoidance, with most studies focusing on either opportunities or incentives to avoid taxes.[6] While prior studies maintain the assumption that firms only engage in tax avoidance opportunities when the tax benefits exceed the potential costs of executing the strategies, few studies provide evidence on the impact of the

immediate cash flow implications. By focusing on how activism affects corporate taxpayer behavior, our study complements prior work by documenting that social activism can result in immediate cash costs to the firm.

[5] While Dyreng et al. (2016) find a significant reduction in tax avoidance among targeted firms relative to their non-targeted peers in their full sample, the result is driven by firms operating in politically-sensitive industries (p.177). We discuss Dyreng et al. (2016) in more detail in section 2.1. Supplemental analyses indicate that our results are less likely explained by political costs. Moreover, the largest protest during 2011, OWS, specifically chose not to make demands because they "refused to appeal directly to existing political institutions at all" (Graeber 2013, p.87).

[6] Prior studies focusing on tax planning opportunities find that firms with greater foreign operations (Rego 2003; Dyreng and Lindsey 2009; Klassen and Laplante 2012a, 2012b; Dyreng, Lindsey, and Thornock 2013), capital expenditures (Gupta and Newberry 1997; McGill and Outslay 2004), leverage (Newberry and Dhaliwal 2001; Newberry 1998), and intellectual property and/or R&D expenditures (Klassen and Laplante 2012b; Dyreng et al. 2013; De Simone, Mills, and Stomberg 2014) exhibit lower effective tax rates. Prior studies focusing on tax planning incentives find that firms' effective tax rates are lower when managers are incentivized to reduce the firm's tax burden (Phillips 2003; Robinson, Sikes, and Weaver 2010; Armstrong, Blouin and Larker 2012; Rego and Wilson 2012; Gaertner 2014; Powers, Robinson, and Stomberg 2014) and when tax savings are more likely to be valued at a premium by the firm (Edwards, Schwab, and Shevlin 2016).

costs on tax avoidance.[7] One of the most commonly cited yet least understood costs that likely curtails tax avoidance, reputational costs, is the focus of this study.[8]

Corporate tax avoidance has attracted attention for decades. That attention has taken various forms including (1) reports produced by tax advocacy groups such as the Citizens for Tax Justice (CTJ) that discuss corporate tax avoidance in depth but often focus on a small sample of firms (e.g., CTJ 1985, 2002, 2011), (2) media articles that focus on specific tax issues or avoidance strategies undertaken by specific firms (e.g., Bergin 2012; Baker 2012; Johnston 2000a, 2000b; Kocieniewski 2011b) and (3) protests initiated by activist groups such as U.S. Uncut or by popular movements such as Occupy Wall Street. Despite the increased public focus on tax avoidance over the last decade (Ernst & Young 2011, 2014) and the fact that many of these reports and actions are intended to "publicly shame" tax offenders (Blank 2009), there is limited evidence on the incidence and magnitude of tax-related reputational costs.

Although academic (Graham et al. 2014) and practitioner (Ernst & Young 2014) surveys suggest that potential reputational damage is important when evaluating a tax planning strategy, existing large sample studies provide little evidence of such costs. Hanlon and Slemrod (2009) find that firms experience negative abnormal stock returns when they announce their tax shelter participation. However, they acknowledge the negative returns cannot be definitively attributed to reputational costs given other plausible reasons for the negative returns.[9] Gallemore et al. (2014) and Austin and Wilson (2015) examine the potential for tax-related reputational costs

[7] Prior studies focusing on the costs of tax planning focus primarily on implementation (Mills, Erickson, and Maydew 1998), regulatory (Mills, Nutter and Schwab 2013; Hoopes, Mescall, and Pittman 2012) and agency costs of tax avoidance (Armstrong, Blouin, Jagolinzer, and Larcker 2015; Baderstcher, Katz, and Rego 2013; Chen, Chen, Cheng, and Shevlin 2010; McGuire, Wang, and Wilson 2014).

[8] For examples of studies positing that reputation costs curtail tax avoidance, see Armstrong et al. (2015), Badertscher et al. (2013), Cen, Maydew, Zhang and Zuo (2014), Chen et al. (2010), Cheng, Huang, Li and Stanfield (2012), Chyz (2013), Donohoe and Knechel (2014), Hope, Ma and Thomas (2013) and McGuire et al. (2014).

[9] Hanlon and Slemrod (2009, p.138-139) concede that "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." In an attempt to disentangle these distinct mechanisms, Hanlon and Slemrod analyze the market reaction to the release of studies by the CTJ that featured calculations of the current effective tax rates of over 200 firms. Despite arguing "if ever companies are accused of being poor corporate citizens with regard to their taxpayer behavior, it is in these studies," they do not find a significant market response for the targeted firms. As such, while their evidence is consistent with the potential for reputational costs, they acknowledge that their results are subject to alternative explanations.

more directly. Gallemore et al. (2014) focus on public disclosure of tax shelter participation and find that (1) these disclosures are *not* associated with common proxies for firm and manager reputational costs, including CEO and CFO turnover, auditor turnover, changes in sales, changes in advertising costs, and changes in media reputation and (2) firms do not decrease tax avoidance after being accused of tax sheltering. Moreover, Gallemore et al. (2014) find that the negative returns associated with disclosure of tax shelter participation fully reverse within a few weeks. Austin and Wilson (2015) examine the tax avoidance behavior of firms with valuable brands. While they find that some firms with valuable brands use the discretion inherent in financial reporting rules to report the benefits of tax planning more conservatively, they find no evidence that firms with valuable brands engage in less tax avoidance than other firms. Collectively, these studies provide little evidence that firms incur meaningful tax-related reputational costs.

Two recent studies—Dyreng et al. (2016) and Chen et al. (2015)—examine research questions related to the existence of tax-related reputational costs. Dyreng et al. (2016) examine the impact of public pressure levied by a nonprofit activist group targeting U.K. firms that did not disclose subsidiaries located in tax havens and, thus, were not compliant with existing U.K. subsidiary disclosure regulations. While they provide evidence of a significant reduction in tax avoidance among targeted firms relative to their non-targeted peers, the reduction is only significant among the firms operating in politically-sensitive industries (Dyreng et al. 2016, p. 177).[10] The importance of political costs in their setting is not surprising given that Dyreng et al. (2016) focus on firms facing high regulatory and political scrutiny due to (1) their noncompliance with mandated disclosure requirements, (2) ActionAid reporting their noncompliance to U.K. regulators and asking the regulators to enforce the subsidiary disclosure regulation, and (3) subsequent pressure on the U.K.'s tax authority to confront U.K. multinationals regarding their tax haven use. Collectively, the research setting and findings make

[10] The reduction in tax avoidance among targeted firms documented in Dyreng et al. (2016) is also only significant relative to their non-targeted peers (i.e. the targeted firms do not actually exhibit lower levels of tax avoidance following the public scrutiny). This finding differs from our results which suggest that firms suffering reputational costs during the protest period exhibit a significant decline in tax avoidance not only relative to firms not suffering reputational costs during the protest period but also relative to their own tax avoidance in the pre-protest period.

it difficult to interpret the results as strong evidence of tax-related *reputational* costs since *political*, rather than reputational costs, appear to play a crucial role in the targeted firms' responses to public pressure. Chen et al. (2015) examine the determinants and consequences of firm-specific negative tax-related media coverage using a sample of S&P 500 firms from 2009 to 2014.[11] Although Chen et al. (2015) find that negative media coverage is increasing in firms' tax aggressiveness in recent years, they find no evidence that negative media coverage results in a reduction in tax avoidance. As such, large sample empirical studies continue to provide mixed evidence regarding the incidence of tax-related reputational costs.

In this study, we examine the incidence, valuation and management of tax-related reputational costs. Unlike prior studies, which often implicitly assume that tax-related reputational costs are constant over time (e.g., Gallemore et al. 2014; Austin and Wilson 2015), we recognize that tax-related reputational costs may vary over time with changes in the public perception of tax avoidance. Below we discuss literature examining the impact of social movements, focusing primarily on how social movements affect public perceptions of and reputational costs associated with certain corporate behaviors.

2.2. Social Movements, Corporate Reputation and Tax-related Reputational Costs

2.2.1. The Impact of Social Movements on Corporate Reputation

Social movements represent change-oriented struggles by groups who have unequal access to power or who oppose the status quo (McAdam et al. 1996, p.21). Although the social movement literature has historically focused on how movements impact the state, recent studies examine how movements affect corporations and identify mechanisms that enable otherwise powerless activists to undermine the power of corporations (Islam and van Staden 2017; O'Sullivan and O'Dwyer 2015; Soule 2009; Walker, Martin and McCarthy 2008; Chalmers and Godfrey 2004). One such mechanism that is particularly relevant in our setting is the use of

[11] Although Chen et al. (2015) select their sample period "because of the dramatic increase in media coverage of taxes" occurring during that period, they do not examine whether media attention or the consequences of that attention change during their sample period.

extrainstitutional tactics. These tactics include confrontational actions (e.g., protests, boycotts, targeting via social media, etc.) used within a movement to challenge powerful organizations with whom the activists lack any direct source of influence (King and Pearce 2010). These tactics affect corporate behavior by communicating the movement's message to a broad audience and increasing social pressure. Prior studies find that these types of tactics can damage corporate reputations, with the potential for reputational damage being greatest when movements attract a large number of supporters, target firms operating in less stable business environments, frame grievances in a manner that generates public sympathy, and garner substantial media attention (Baron 2003; Bartley and Child 2014; King 2008; King 2014; King and Soule 2007; Koopmans 2004; O'Rourke 2005; Schurman 2004).

Based on these prior studies, it seems virtually certain that the protests occurring during 2011 had the potential to cause significant reputational damage given these actions (1) attracted massive numbers of supporters (e.g., Walkerville attracted 100,000 supporters at its peak and the Occupy Movement held "occupations" in over 460 U.S. cities), (2) framed grievances in ways that resonated with the broader public (e.g., "We are the 99%") and generated substantial public sympathy, (3) targeted the corporate sector at a time of systemic instability as economic and social discontent spread in the years following the financial crisis, and (4) attracted significant media coverage. In the context of our study, however, it is not only important that these actions result in reputational costs in general but also that the actions increase the likelihood of *tax-related* reputational costs. In the next section, we discuss how these protests resulted in both heightened scrutiny and an increasingly negative perception of tax avoidance activities.

2.2.2. The Incidence of Tax-Related Reputational Costs during a Period of Protest

Widespread discontent over the bailout of financial institutions, weakening economic prospects, increasing income inequality and a growing belief that governments primarily served corporations and only the wealthiest individuals triggered a global wave of protest that reached the U.S. in 2011. The earliest significant action in the U.S. occurred in February in Madison, Wisconsin in response to bills passed by the state legislature. These bills included provisions

reducing state employees' benefits and collective bargaining rights while simultaneously providing tax cuts for businesses (Stein and Marley 2011; Bauer 2011). This protest, which drew 100,000 protestors at its peak and became known as "Walkerville," represented just the beginning of increased activism in 2011 (Kelleher 2011). "Walkerville" inspired similar protests across the country, including "Bloombergville" in New York City to protest austerity measures and tax breaks for the wealthy (Maher 2011; Hernandez 2011). In addition, numerous activist groups were formed to combat economic inequality, corporate greed and regulatory capture, including Rebuild the Dream and U.S. Uncut. Rebuild the Dream was created to give a "voice to a bottom-up movement they knew reverberated beyond Wisconsin" and drew up to 50,000 protestors to participate in "Save the American Dream" rallies held across the nation in early 2011. U.S. Uncut, which was created to protest corporate tax avoidance and cuts to social spending and public sector jobs, targeted a number of corporations directly and sponsored protests in over 100 cities by May 2011. Despite the fact that these actions attracted only modest media attention, they are credited with laying the groundwork for "a new progressive movement that burst onto the scene in a powerful way with [Occupy Wall Street]."[12]

Planning for Occupy Wall Street (OWS) began in the summer of 2011 with the physical protest beginning on September 17th in Lower Manhattan. The protest rapidly gained momentum as the "Occupy Movement" attracted significant media attention and protests erupted in over 460 cities.[13] By the time the physical encampment ended in late 2011, OWS and the accompanying "Occupy" protests across the country had received more media coverage than any grass roots movement since the 1960s (Graeber 2013; Taylor 2017) and were credited with putting "…the

[12] The fact that the early 2011 protests played an important role in what would become OWS is evidenced by (1) members of the "Bloombergville" New York General Assembly becoming the foundation of what would later become the OWS general assembly, (2) U.S. Uncut initially framing the "99 percent" narrative used by the OWS movement (Kilkenny 2012) and (3) "Walkerville" and "Bloombergville" providing lessons on how to effectively employ "occupations" as a form of protest in the U.S.

[13] Despite the fact that OWS followed several smaller protests, the size and scale of OWS was largely unexpected, even by the individuals organizing the movement. For example, when reflecting on OWS, the organizers have remarked that "at the time, the best I could think to say is that when a true revolutionary movement does arise, everyone, the organizers included, is taken by surprise" and "no one was sure exactly what would come of it, but at least for the moment almost all of us were delighted at the prospect of finding out" (Graeber 2013, pp. 3 and 34).

inequalities of everyday life on the national agenda, influencing reporting, public awareness and language itself" (Chomsky 2012, p.9). [14]

We focus on the OWS protest and the protests that preceded it because they represent a distinct period during which media and public interest in a series of interrelated, socioeconomic problems—most notably income inequality, corporate greed, and regulatory capture—increased substantially. Although tax avoidance was not the primary focus of these protests, taxes and tax avoidance activities did garner substantial attention as important components of those larger problems and the proposed solutions.

For example, given that taxes are one of the primary mechanisms for reallocating income and wealth within a society, increased interest in income inequality naturally leads to discussions of tax issues, including who bears the tax burden and whether that burden is distributed fairly. Examples of such discussions from 2011 protest-related materials include (1) the impact of taxes on the market economy and the distribution of income (Wolf 2012; Maclay 2012; Diamond and Saez 2012), (2) the shift in tax burden from multinational corporations and wealthy individuals to small businesses and the middle class (Collins 2011; Reich 2012) and (3) the ability of multinationals and the wealthy to reduce their tax liabilities and avoid their "fair share" of taxes (Collins 2011; Reich 2012). Thus, even though taxes may not have been the protests' primary target, the increased focus on income inequality during the protest period resulted in heightened scrutiny of tax avoidance activities and an increasingly negative perception of taxpayers that aggressively avoid income taxes.

Similarly, protests against corporate greed focused on corporate behaviors deemed socially irresponsible, including tax avoidance.[15] For example, one article reported that OWS

[14] Media attention attracted by the OWS, which was the last major 2011 protest, was declining substantially by the end of 2011, with media attention declining by 50 percent in December and by another 50 percent in January (Smith and Rafail 2012). With continued declines through March and April, the OWS movement was officially declared dead in the media when OWS failed in its attempt to organize a general strike on May Day resulting in CNN declaring that "May Day fizzled" and the New York Post saying "Goodbye, Occupy" (Etzioni 2012; Post Staff Report 2012).

[15] Other behaviors include wage cuts, outsourcing, unfair labor practices, price gouging and ignoring the environmental consequences of business practices (Sanders 2011; Hejela and Dobnik 2011; Bannon 2011).

targeted "corporate greed and the concentration of wealth" in America and was triggered by "the high rate of unemployment and foreclosures, as well as the growing perceptions that big banks and corporations are not paying their fair share of taxes" (Duff-Brown 2011). Another article reported that protestors were there to "stop corporate greed. [Corporations] should pay their fair share of taxes" (Hajela and Dobnik, 2011). Finally, another article reported that protestors "put the problem of corporate greed on the front political burner… National opinion polls have consistently shown that Americans want rich people to pay more taxes and that they want politicians to close corporate loopholes" (Bannon 2011). Collectively, these articles suggest that, even though taxes may not have been the primary target, the increased focus on corporate greed during our event window resulted in heightened scrutiny of tax avoidance activities.

Finally, the link between the last major issue targeted by the protests, regulatory capture, and tax avoidance is based on concerns that political contributions and lobbying efforts allow "the rich to speak through microphones while the poor can barely whisper" (Turow 2012). From a tax standpoint, regulatory capture enables large corporations to secure preferential tax treatment (Roberts and Bobek 2004). During the protest period, tax watchdog groups and select journalists expressed very simple and direct concerns regarding the impact of regulatory capture on corporate taxes. When discussing a CTJ report documenting that numerous Fortune 500 companies pay no U.S. income taxes despite substantial profits, CTJ Director Robert McIntyre stated that the decline in corporate taxes "didn't happen by magic. The corporations are good at lobbying, and the Congress is good at rolling over for them" (Blitzer et al. 2011). Similarly, another media article stated that "corporations pay lobbyists. Lobbyists convince lawmakers to add tax breaks. Lawmakers modify the tax code" (Riley 2011).[16]

[16] Given OWS was the largest protest and attracted the most media attention during our event window, most of the material cited above relates to OWS. Note that all 2011 protests and activist groups can easily be linked to taxes. "Walkerville" protestors denounced the state government for severely curtailing public employees' collective bargaining power to reduce state deficits while simultaneously granting new tax breaks benefiting corporations and wealthy business owners. The "Bloombergville" Declaration advocates taxing the wealthy instead of enacting austerity measures. Moreover, similar to OWS, agendas for "Bloombergville" events raise concerns related to regulatory capture, income inequality, and corporate tax avoidance (Bloombergville Info, 2011). Rebuild the Dream's "Contract for the American Dream" raises issues regarding income inequality, regulatory capture and corporate greed and states that "corporate tax havens and tax breaks for shipping jobs overseas" must be outlawed

Collectively, the arguments presented above link the socioeconomic issues targeted by the 2011 protests and taxes due to taxes being an important component of those larger issues and the proposed solutions. As such, it is not surprising that when 223 protesters in New York City, Boston and Washington, D.C. were asked in late October 2011 "If you could enact ONE policy to address America's problems today, what would it be?" One of the common responses focused on raising taxes on the rich, increasing taxes on corporations, making corporations pay their fair share, and eliminating tax loopholes (Hayat and Covert 2011). Moreover, it is apparent that many within the media and Corporate America recognized the shift occurring during our event window as media articles proclaimed that the "tax-avoidance spotlight has been shining brightly, via the media, on companies" in late 2011 (Sloan 2011) and practitioner publications warned that "a new breed of activism" is emerging "as companies face unprecedented scrutiny and reporting of their tax affairs by advocacy and media groups, often hurting brand reputation and – in the worst cases – shareholder value, even when such coverage is unwarranted and inaccurate" (Ernst & Young 2011).

Based on these arguments, we predict firms engaged in higher levels of tax avoidance faced greater reputational costs due to increased scrutiny of corporate tax avoidance during the protest period. Stated formally:

H1: Firms exhibiting high levels of tax avoidance incur reputational costs during periods of social protest.

2.2.3. The Valuation of Tax-Related Reputational Costs

Prior studies document benefits of having a favorable corporate reputation. Favorable reputations allow firms to charge premium prices (Milgrom and Roberts 1986; Rindova et al. 2005; Obloj and Capron 2011), attract and retain quality employees (Gatewood, Gowan and Lautenschlager 1993; Turban and Cable 2003), improve access to external capital (Beatty and Ritter 1986), and increase their market value and financial performance (Roberts and Dowling

(Rebuild the Dream, 2011). Finally, while U.S. Uncut was against austerity measures, it was founded as an "anti-tax dodging movement" and most actions targeted corporations paying little tax (Kilkenny, 2011).

2002; Pfarrer et al. 2010). Prior studies also provide evidence that firm value declines following events that damage corporate reputation due to expected increases in contracting costs and decreases in firm performance (Karpoff, Lee and Martin 2008a; Murphy, Shrieves and Tibbs 2009; Karpoff 2011).[17] As such, we anticipate that reputational damage stemming from tax avoidance reduces firm value. Given that we expect firms to incur tax-related reputational costs during the protest period, we make the following prediction:[18]

H2: Firms exhibiting high levels of tax avoidance are valued less during periods of social protest.

2.2.4. The Management of Tax-Related Reputational Costs

Prior studies provide evidence that firms take actions to repair their reputation following a negative event. For example, prior studies find firms often take one or more of the following actions after a negative reputational event such as a restatement or a fraud: (1) dismiss their external auditor, (2) change their management team, (3) improve corporate governance, (4) increase the number of audit committee meetings, (5) improve the incentive or control system of the firm, (6) restructure or strategically refocus the firm to improve transparency, (7) initiate a new share repurchase program to signal the firm is undervalued, (8) implement a major new advertising campaign, (9) rebrand products, (10) initiate employee training and mentoring programs and (11) initiate or increase corporate social responsibility programs (Farber 2005; Karpoff, Lee and Martin 2008b; Wilson 2008; Chakravarthy, deHaan and Rajgopal 2014). As such, we anticipate that firms take actions to repair their reputation if tax-related reputational costs reduce firm value. In our setting, we anticipate that firms report higher tax liabilities following an increase in tax-related reputational costs. Stated formally, we predict:

[17] Prior research documents negative market reactions following events that can result in reputational damage such as product recalls (Jarrell and Peltzman 1985), plane crashes (Borenstein and Zimmerman 1988), fraud (Karpoff and Lott 1993; Karpoff, Lee, and Vendrzyk 1999), environmental violations (Karpoff, Lott, and Wehrly 2005), earnings restatements (Hennes et al. 2008) and antitrust investigations (Van den Broek et al. 2012).

[18] While most studies assume that tax avoidance is a value-increasing activity because it reduces the cash tax outflows to the firm, empirical evidence on the valuation of tax avoidance is mixed. For purposes of this study, the on average valuation of tax avoidance is not important. We focus on the differential valuation of tax avoidance during periods of heightened scrutiny and expect that tax avoidance will be valued less during such periods.

H3: Firms suffering tax-related reputational costs during periods of social protest are more likely to increase reported taxes.

3. The Incidence of Tax-Related Reputational Costs

3.1. Research Design

To test *H1* and investigate whether firms exhibiting high levels of tax avoidance incur reputational costs during periods of social protest, we estimate the following model using firm-year observations from 2009 through 2013:

$$NegSentiment\%_{i,t} = \delta_0 + \delta_1 Protest_t + \delta_2 PostProtest_t + \delta_3 HighAvoidance_{i,t} + \delta_4 Protest_t * HighAvoidance_{i,t} + \delta_5 PostProtest_t * HighAvoidance_{i,t} + \delta_6 NegSentiment\%_{i,t-1} + \Sigma\beta_k Controls_{i,t} + \varepsilon \quad (1)$$

The interaction between the protest period, which equals one in 2011 and zero otherwise, and measures of high tax avoidance (*Protest*HighAvoidance*) in equation (1) allows us to test whether tax-related reputational costs are significantly different during the protest period.

3.1.1. A Media-based Measure of Reputational Costs

Based on prior studies in the social movement literature suggesting negative media attention results in a "mediated disruption" that threatens corporate reputation (King 2014), we use RavenPack's proprietary Company Sentiment Indicator *(Sentiment)* scores to construct a media sentiment-based measure of corporate reputational costs. *Sentiment* is based on RavenPack's analysis of all Dow Jones Newswire and Wall Street Journal articles and captures firm-specific media sentiment at a point in time. RavenPack data have been used to study institutional investors use of media analytics for high-frequency trading (Von Beschwitz, Keim, and Massa 2013), how the business press affects the pricing of firm-specific accounting information (Drake et al. 2014), whether short sellers and dark pool traders anticipate unscheduled news events (Engelberg, Reed, and Riggenberg 2012; Reed, Samadi, and Sokobin 2017), the relation between media coverage and how investors respond to managerial guidance (Twedt 2016), the effects of borrower media coverage on private lending decisions (Bushman,

Williams, and Wittenberg-Moerman 2017) and how media coverage effects the dissemination of financial information (Blankespoor, deHaan, and Zhu 2017).[19]

To measure reputational costs, we first create a monthly indicator variable, *NegMonthlySentiment*, equal to one for a given firm-month if the firm's *Sentiment* score in month *m* is in the bottom three deciles of all firm *Sentiment* scores in month *m* and zero otherwise.[20] Our variable of interest, *NegSentiment%*, is a firm-year measure equal to the average of *NegMonthlySentiment* in a given year and captures the percentage of months during the year in which the firm experienced negative media sentiment.

3.1.2. Measuring Tax Avoidance

Our measure of tax avoidance in equation (1), *HighAvoidance*, is an indicator variable equal to one for firms exhibiting a long-run effective tax rate in the lowest three deciles of its industry-year and zero otherwise.[21] We calculate *HighAvoidance* separately based on three-year and five-year GAAP effective tax rates. *ETR3* (*ETR5*), the firm's three-year (five-year) GAAP effective tax rate, equals the ratio of the sum of total tax expense (TXT) over the three (five) most recent years to the sum of pre-tax income less special items (PI – SPI) over the same period. We focus on GAAP ETRs because these rates are prominently reported in financial statements and are the most visible to financial statement users.[22] We measure tax avoidance

[19] The details of RavenPack's proprietary technology are opaque. However, they do provide some detail on the calculation of sentiment scores. For each newswire or article, RavenPack identifies each firm mentioned in the story and assigns a relevance score based on the firm's prominence in the article. This relevance "score is assigned by a proprietary text positioning algorithm based on where the entity is first mentioned (i.e. headline, first paragraph, second paragraph, etc.), the number of references in the text, and the overall number of entities mentioned in the story." RavenPack then calculates and assigns a sentiment score to each news story. This sentiment score "is determined by systematically detecting entities and the roles played by those entities in a story using RavenPack's proprietary technology and extensive database of time sensitive information about entities." These scores are used as inputs to create RavenPack's aggregate measure of news sentiment for each firm, which it labels the Company Sentiment Indicator Score (*Sentiment*).

Blankespoor et al. (2017) discuss and validate similar RavenPack data in the online appendix to their study, available at: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2966859

[20] RavenPack scales monthly sentiment scores between negative one and one. Because firm-month scores are relative to other firms in a given month, positive (negative) scores do not necessarily imply positive (negative) media sentiment. We focus on firms with RavenPack monthly sentiment scores in the bottom three deciles to increase the likelihood that we are capturing firms experiencing negative media sentiment.

[21] Our results are qualitatively similar if we do not industry-adjust ETRs when measuring firms' tax avoidance.

[22] We do not base *HighAvoidance* on cash ETRs in our primary analysis because they are not disclosed in the financial statements (i.e. users must compute cash ETRs using information from the statement of cash flows and the

based on long-run tax rates for two reasons. First, Dyreng et al. (2008) find that long-run ETRs more accurately measure firms' tax avoidance. Second, it is unlikely that protestors sifted through financial statements to evaluate firms' current year U.S. tax liabilities. Instead, protestors likely relied on media and tax watchdog group reports to identify firms avoiding taxes, most of which focus on multi-year measures of corporate tax avoidance and often include industry-level data such as aggregate tax rates by industry and firms exhibiting the lowest tax rates within each industry (CTJ 2004, 2011; Kocieniewski 2011a; Sloan 2011; Buchheit 2012; Eichler 2012).

Since public perception of tax avoidance likely varies over time and corporate tax avoidance is an issue that does not consistently garner high levels of negative media attention, we make no prediction for the coefficient on *HighAvoidance*. A positive (negative) coefficient suggests increased tax avoidance attracts more negative media attention and, thus, results in greater (lower) mediated tax-related reputational costs.

3.1.3. Measuring Corporate Scrutiny

As discussed above, the protest period represents a window of heightened scrutiny of corporate behavior during which firms that engaged in high levels of tax avoidance were more likely to incur reputational costs. *Protest* is an indicator variable equal to one for a firm's 2011 fiscal year and zero otherwise. Given Ravenpack scales its sentiment indicator between negative one and one, we make no prediction for the coefficient on *Protest*, which captures the average difference in our measure of reputational costs during the protest period relative to non-protest time periods. Although evidence suggests that the media and public scrutiny surrounding the protests faded rather quickly, it is possible that the increased scrutiny lingered beyond the protest period. To examine this possibility, we include *PostProtest*, an indicator variable equal to one for fiscal years 2012 and 2013 and zero otherwise, and a *PostProtest*HighAvoidance* interaction.

3.1.4. Corporate Scrutiny and Tax Avoidance

The variable of interest in equation (1), *Protest*HighAvoidance*, captures the differential

income statement) and are, thus, potentially less appropriate for our setting. However, we repeat our analyses using cash ETRs in supplemental analyses and obtain qualitatively similar results.

impact of tax avoidance on corporate reputation during the protest period relative to the pre-protest period. *H1* predicts a positive coefficient on the *Protest*HighAvoidance* interaction, suggesting that high levels of tax avoidance are associated with greater negative media sentiment and, thus greater mediated tax-related reputational costs, during the protest period.

3.1.5. Controls

We include the firm's prior year negative news sentiment, $NegSentiment\%_{t-1}$, to control for firm-specific factors related to our media sentiment-based measure of reputational costs. We anticipate a positive coefficient on $NegSentiment\%_{t-1}$, suggesting that corporate sentiment is somewhat persistent. We also control for firm characteristics known to be associated with ETRs (e.g., firm size, profitability, sales growth, the presence of net operating losses, R&D activities, etc.) to ensure that the coefficients on *HighAvoidance* and *Protest*HighAvoidance* are not capturing firm characteristics associated with both the firm's level of tax avoidance and the firm's reputation. Including these variables is important given prior studies find that both tax avoidance and corporate reputation are a function of firm size, accounting- and market-based performance metrics, accounting risk metrics and research and development expenditures (McGuire, Sundgren and Schneeweis 1988; Fombrun and Shanley 1990; McWilliams and Siegel 2000).[23] We discuss these control variables and their relation to firms' tax avoidance in more depth in Section 5.1. Finally, we include industry fixed effects to control for variations in corporate reputation across industries.

3.2. Sample and Descriptive Statistics

To construct our sample, we begin with RavenPack monthly data from 2009 to 2013 and create an annual measure of *Sentiment* that corresponds to a given firm-year. We focus on 2009 to 2013 in order to have a well-defined window around the protest period, consisting of the two years prior to the protest period, the protest period, and the two years after the protest period. We match the annualized Ravenpack data to COMPUSTAT. Consistent the prior tax avoidance

[23] Our results are qualitatively similar if we interact *Protest* with all control variables to account for the possibility that some control variables may differentially affect media attention during the protest period.

literature, we remove utilities and financial companies (SIC codes between 4900 and 4999 or between 6000 and 6999) as well as loss firms from our sample. We also require data for our tax avoidance measures (*ETR3* and *ETR5*) and other control variables. This yields the sample of 5,098 firm-year observations used to examine the time-series variation in the relationship between tax avoidance and our media sentiment-based measure of reputational costs. See Table 1 for details on our sample selection process.

Table 2, Panel A provides descriptive statistics for the full sample. Table 2, Panel B provides descriptive statistics after partitioning the sample into the pre-protest, protest, and post-protest periods. Focusing on our measures of tax avoidance, the mean ETRs in our sample are slightly lower than those reported in other studies (e.g., *ETR3* = 26.37 percent in our sample relative to 34.97 percent in Brown and Drake 2014). This is not surprising given that our event window follows a period of reduced profitability and that ETRs have been declining over time (Dyreng, Hanlon, Maydew and Thornock 2015).

3.3. Multivariate Results

Table 3 presents the results from estimating equation (1). In columns (1) and (2), *HighAvoidance* is based on *ETR3* and *ETR5*, respectively. Interestingly, we find a negative and significant coefficient on *HighAvoidance*, indicating that high levels of tax avoidance are associated with less negative media attention during periods exhibiting lower scrutiny of corporate tax avoidance. Consistent with *H1*, the coefficients on *Protest*HighAvoidance* are positive and significant in both specifications. These coefficients indicate that the difference in negative media sentiment experienced by high versus low tax avoidance firms increased by 4.25 to 4.67 percent from the pre-protest to the protest period. Relative to the mean firm which experiences negative media sentiment during 25.17 percent (untabulated) of the protest period, this represents a 16.89 to 18.55 percent increase in negative media sentiment.

Collectively, these results suggest that high levels of tax avoidance are associated with negative media sentiment and, thus, mediated tax-related reputational costs during periods of heightened scrutiny of corporate tax avoidance. Moreover, these results highlight the importance

of accounting for variation in the public perception and media scrutiny of corporate tax avoidance when examining the incidence of tax-related reputational costs.

4. The Valuation of Tax-Related Reputational Costs

Given the numerous benefits of a favorable corporate reputation (e.g., the ability to charge premium prices, improve access to external capital, etc.), we next examine whether high tax avoidance firms are valued less than low tax avoidance firms during periods of heightened scrutiny. Specifically, we examine whether a hedge portfolio that takes a long position in low tax avoidance firms and a short position in high tax avoidance firms produces positive abnormal returns during the protest period relative to analogous portfolio returns during the pre- and post-portfolio periods.

4.1. Research Design

To perform our hedge portfolio analysis, we combine financial statement data from COMPUSTAT with monthly stock return data from CRSP. Consistent with methods used for matching financial statement data and monthly returns in the finance literature (e.g., Fama and French 1993), we match COMPUSTAT data reported during a given year to the monthly CRSP data in the following year after June 1. We then form portfolios on June 1 each year that are long in low tax avoidance firms and short in high tax avoidance firms.

We estimate the following model using the sixty monthly observations in years 2009 through 2013 to determine whether the difference in returns between high and low tax avoidance firms is greater during the protest period:

$$Hedge_m = \alpha + \theta_1 Protest_m + \theta_2 PostProtest_m + \beta MKT\_RF_m + sSMB_m + hHML_m + mMOM_m + \varepsilon \quad (2)$$

$Hedge_m$ equals the return for month m of the hedge portfolio that is long in low tax avoidance firms and short in high tax avoidance firms. *Protest* (*PostProtest*) is equal to one for

months during calendar year 2011 (calendar years 2012 and 2013) and zero otherwise.[24] If high tax avoidance firms are valued less during the protest period, our hedge portfolio will generate positive returns during the period ($\theta_1 > 0$). We include *PostProtest* to control for the possibility of scrutiny lingering beyond the protest period.

We also include the Fama and French (1993) four factors from Ken French's website as control variables in equation (2). MKT_RF_m equals the excess return on the market in month *m*, measured as the value-weighted return on all New York Stock Exchange (NYSE), American Stock Exchange (AMEX), and NASDAQ stock exchange stocks less the one-month Treasury bill rate. SMB_m equals the average return in month *m* on the three small firm portfolios minus the average return on the three large firm portfolios. HML_m is the average return in month *m* on the two value firm portfolios minus the average return on the two growth firm portfolios. MOM_m equals the average return in month *m* on the two high prior return portfolios minus the average return on the two low prior return portfolios.

Because control variables are generally not included in hedge portfolio analyses, we define high (low) tax avoidance in two ways. First, we define low (high) tax avoidance firms as firms with ETRs (*ETR3* or *ETR5*) in the highest (lowest) three deciles of the full sample. Second, we define low (high) tax avoidance firms as firms with ETRs (*ETR3* or *ETR5*) in the highest (lowest) three deciles of industry-year subsamples.

4.2. Results

Table 4 presents the results from estimating equation (2). Panel A presents the results where the hedge portfolios are based on high versus low ETRs within the full sample. Panel B presents the results where the portfolios are based on high versus low ETRs within industry-year subsamples. In all specifications, the coefficient on *Protest* is positive and statistically

[24] Our media sentiment and ETR analyses are based on firm-year observations in which *Protest* (*PostProtest*) equals one for a firm's 2011 fiscal year (2012 and 2013 fiscal years). In those analyses, we focus on the 2011 fiscal year because the height of the protests falls within a firms' 2011 fiscal year. Calendar-time portfolios analyses are advantageous because observations are based on calendar months rather than firm-years, which allows us to focus more directly on returns during the 2011 calendar year which includes both the height of the movement as well as its precursors (e.g., Walkerville, Bloombergville, the rise of U.S. Uncut and other activist groups, etc.).

significant. These results indicate that high tax avoidance firms underperformed relative to low tax avoidance firms during the protest period. These results are consistent with *H2* and suggest that high tax avoidance firms are valued less during periods of heightened scrutiny of corporate tax avoidance.

The coefficients on *Protest* in Table 4 indicate that the average abnormal monthly returns of low tax avoidance firms are approximately 0.0083 to 0.0109 higher than the average monthly return of high tax avoidance firms. This implies an annual effect ranging from 9.96 to 13.08 percent, which is economically significant. Based on the average firm's market value of equity during the protest period ($8,410 million), this translates into an average decline in value ranging from $837 to $1,100 million.[25]

5. The Management of Tax-Related Reputational Costs

5.1. Research Design

The previous tests provide evidence suggesting high tax avoidance firms incur tax-related reputational costs and are valued less during the protest period. *H3* predicts that firms respond to tax-related reputational costs by reporting higher tax burdens. To test *H3*, we define firms whose change in average *Sentiment* between the 2010 and 2011 fiscal years was below (above) the median as firms experiencing higher (lower) reputational costs. We then estimate the following regression separately for firms experiencing higher reputational costs and for firms experiencing lower reputational costs during the protest period:

$$ETR_{i,t} = \beta_0 + \beta_1 Protest_t + \beta_2 PostProtest_t + \Sigma\beta_k Controls_{i,t} + \varepsilon \quad (3)$$

Unlike the analyses above, we use a one-year tax rate to focus on firms' responses to tax-related reputational costs. Because it is unlikely that firms anticipated the 2011 protests and the

[25] As an alternative valuation test, we estimate the following regression: $Q_{i,t} = \lambda_0 + \lambda_1 Protest_t + \lambda_2 PostProtest_t + \lambda_3 HighAvoidance_{i,t} + \lambda_4 Protest_t * HighAvoidance_{i,t} + \lambda_5 PostProtest_t * HighAvoidance_{i,t} + \Sigma\lambda_k Controls_{i,t} + \varepsilon$, with *Q* equal to Tobin's Q and all other variables being the same as previously defined. When we estimate this equation, we find a negative and significant coefficient on the *Protest*HighAvoidance* interaction. These results are consistent with our hedge portfolio analyses and suggest that firms exhibiting high levels of tax avoidance are valued less during the protest period.

increased potential of tax-related reputational costs, we make no prediction for the coefficient on *Protest*.[26] However, if firms respond to increased tax-related reputational costs by decreasing tax avoidance, we anticipate a positive coefficient on *PostProtest* for firms that experience substantial reputational costs.

In addition to our explanatory variable of interest, *PostProtest*, we control for firm characteristics known to be associated with a firm's tax avoidance activities. We include three variables—*PROA*, *SalesGrowth* and *LnSales*—to control for the underlying economic activity of the firm to ensure that any documented change in effective tax rates exhibited by firms during the *PostProtest* period relative to the prior periods is not due to differing levels of economic activity. *PROA* equals a firm's pretax return on assets and controls for the effect of firm profitability on effective tax rates. Most prior studies document a positive association between profitability and ETRs. As such, we expect a positive coefficient on *PROA*. We also include *SalesGrowth*, which equals a firm's sales growth for the period, as an additional control for any effect of a change in economic activity on ETRs.

LnSales equals a firm's natural log of sales and controls for firm size. Prior studies generally argue that firm size can have two opposing effects on tax planning. On one hand, large firms are often more sophisticated and better equipped to structure complex tax-reduction transactions (Mills, Erickson, and Maydew 1998; Hanlon, Mills, and Slemrod 2007), suggesting a positive association between firm size and tax planning. On the other hand, large firms are often more mature and have fewer tax shields as their capital investment slows, suggesting a negative relation between firm size and tax planning. Prior studies often use the natural log of sales, assets, or the market value of equity to proxy for firm size. We selected the natural log of sales in this study because, unlike assets and the market value of equity, sales represent a current year flow that captures the overall economic activity of the firm. Because *LnSales* captures many effects, we make no directional prediction.

[26] Even if firms anticipated the negative scrutiny associated with the protest period, it generally takes time to unwind tax avoidance positions, which makes it likely that changes in tax avoidance will occur after the protest period.

We also include a firm's book-to-market ratio, *BM*, to capture a firm's expected future economic growth. While growth firms face different tax planning incentives and opportunities than mature firms, we make no directional prediction for *BM*.

We also include additional standard controls in tax planning models. *FPROA* proxies for the extent of a firm's foreign operations. *FPROA* equals a firm's ratio of foreign pretax income to assets. Because multinational firms can locate income in lower tax jurisdictions, we expect a negative association between *FPROA* and ETRs.

We include *Leverage* to control for a firm's capital structure. *Leverage* equals the ratio of long-term debt to assets. Prior studies provide evidence that debt allows firms to reduce ETRs by placing their debt in high-tax jurisdictions (Newberry and Dhaliwal 2001), structuring debt to maximize foreign tax credits (Newberry 1998) and structuring off-balance-sheet financing to maximize interest deductions without decreasing book income (Mills and Newberry 2004). Collectively, these studies suggest that debt is negatively associated with ETRs.

We include *PP&E* to proxy for tax avoidance opportunities that arise from capital assets. *PP&E* equals the ratio of property, plant, and equipment to total assets. Governments often use tax policy to spur economic investment. Consistent with legislated tax shields, capital-intensive firms have lower tax burdens (Gupta and Newberry 1997), higher book-tax differences (Mills and Newberry 2001; Wilson 2009; Lisowsky 2010), and higher IRS deficiencies (Rice 1992; Mills 1998). As a result, we expect a negative relation between *PP&E* and ETRs.

We include *Inventory* to proxy for a firm's inventory intensity. Because higher inventory intensity does not typically generate tax planning opportunities, we anticipate a positive association between *Inventory* and ETRs.

We include *R&D* to control for a firm's intellectual property. *R&D* equals the ratio of research and development expense to revenues. Intellectual property, such as patents and brand intangibles, increases opportunities to decrease taxes via income shifting. The R&D tax credit also reduces ETRs. As such, we expect *R&D* to be negatively related to ETRs.

We include *PretaxDiscAccr* to control for changes in financial reporting practices.

PretaxDiscAccr equals a firm's pretax performance-matched discretionary accruals as estimated in Frank, Lynch, and Rego (2009). Frank et al. (2009) find that firms that exhibit more aggressive financial reporting practices are more tax aggressive. As such, we expect a negative association between *PretaxDiscAccr* and ETRs.

We include an indicator variable, *NOL*, and *ΔTLCF* to control for the presence and use of net operating loss carryforwards. We expect that *NOL* firms and firms with decreasing tax loss carryforwards (i.e., negative *ΔTLCF)* exhibit lower tax rates because they are less profitable and are able to utilize the loss carryforwards to reduce taxable income. We include *Distress* to control for firm-specific financial constraints. Consistent with Edwards et al. (2016), we expect that constrained firms take actions to reduce their ETRs and, thus, exhibit lower ETRs relative to unconstrained firms. We also include *Options* to control for option exercises which reduce pretax income and income taxes. Given that the 2011 protests likely increased scrutiny of executive compensation, it is important to control for option activity. Finally, we include industry fixed effects based on two-digit SIC codes to control for fixed tax shields and tax subsidies that often vary across industries.

5.2. Results

We report the results of estimating equation (3) in Table 5. Column 1 presents the results for the full sample; Column 2 (3) presents the results for the subsample that experienced lower (higher) reputational costs during the protest period.

Estimating equation (3) in the full sample, we find an insignificant coefficient on *PostProtest* (β_2 = 0.0025, *p*-value > 0.10). This result suggests there was no on average reduction in tax avoidance among our sample firms following the protest period. However, we only expect a significant increase in ETRs among firms that experience reputational costs during the protest period. To explicitly test *H3* and examine whether firms that incurred tax-related reputational costs during the protest period increase their ETRs, we partition the sample into firms experiencing lower (higher) reputational costs during the protest period. We find that firms experiencing higher reputational costs during the protest period exhibit higher ETRs during the

post-protest period (column 3: β_2 = 0.0332, *p*-value < 0.01). In contrast, firms experiencing lower reputational costs during the protest period actually exhibit a significant decrease in ETRs during the post-protest period (column 2: β_2 = -0.0323, *p*-value < 0.01). Collectively, these results are consistent with *H3* and suggest that firms suffering tax-related reputational costs take actions to manage and alleviate those costs.

The coefficient on *PostProtest* in Table 5 indicates that firms experiencing higher reputational costs during the protest period exhibit an average increase in ETRs of approximately 3.32 percentage points from the protest to post-protest periods. Given the average ETR of firms experiencing high reputational costs during the protest period equals 23.6 percent, this increases represent a 14.07 percent increase in ETRs. Moreover, given average pretax income adjusted for special items of $1,181 million during the post-protest period, these results imply that firms suffering larger reputational costs during the protest period reported $32.12 ($39.21) million more in annual tax expense during the post-protest period. This equates to approximately 3.00 percent of operating cash flows in the post-protest period.

6. Supplemental Analyses

6.1. Placebo Analyses

In this section, we conduct placebo analyses to provide additional evidence that our event window is unique and represents a period of heightened scrutiny of tax avoidance. Specifically, we repeat our primary analyses (presented in Tables 3, 4 and 5) after resetting the protest period, one year at a time, to a year between 2002 and 2010. For example, if the protest year is reset to equal 2005, the placebo analyses will be based on data from 2003 through 2007 with the pre-protest, protest and post-protest periods including years 2003 and 2004, 2005, and 2006 and 2007, respectively. We summarize the results from these analyses in Table 6.

Table 6, Panel A presents the results of our placebo analysis, where the coefficients on the *Protest*HighAvoidance* interaction result from re-estimating equation (1) after resetting the

"protest" period, one year at a time, to a year in between 2002 and 2010.[27] These coefficients can be compared to the analogous coefficients presented in Table 3 where the "protest" period is defined as 2011. A positive and significant coefficient on *Protest*HighAvoidance* suggests that high tax avoidance firms incur mediated reputational costs during the "protest" period. In Table 3, we find positive and significant coefficients on *Protest*HighAvoidance* in all specifications. In contrast, the coefficients on *Protest*HighAvoidance* in the placebo analysis in Table 6, Panel A are positive (negative) and significant in one (two) of the 18 specifications (9 years × 2 tax avoidance measures).

Table 6, Panel B presents the results of re-estimating equation (2) after resetting the "protest" period, one year at a time, to a year in between 2002 and 2010.[28] These coefficients can be compared to the analogous coefficients presented in Table 4 where the "protest" period is defined as 2011. A positive and significant coefficient on *Protest* suggests a hedge portfolio long in low tax avoidance firms and short in high tax avoidance firms during the "protest" period generates positive abnormal returns. In our original analysis reported in Table 4, we find positive and significant coefficients on *Protest* in all specifications. In contrast, the coefficients on *Protest* in the placebo analysis in Table 6, Panel B are positive (negative) and significant in five (three) of the 36 specifications (9 years × 4 tax avoidance measures).

Table 6, Panel C is based on re-estimating equation (3) after resetting the "protest" period, one year at a time, to a year in between 2002 and 2009. Panel C reports whether the coefficient on *PostProtest* is significantly greater (indicative of increased ETRs and less tax avoidance) among firms experiencing greater reputational costs during the "protest" period relative to firms experiencing lower reputational costs.[29] In our original analysis reported in

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[27] Recall that equation (1) is $NegSentiment\%_{i,t} = \delta_0 + \delta_1 Protest_t + \delta_2 PostProtest_t + \delta_3 HighAvoidance_{i,t} + \delta_4 Protest_t * HighAvoidance_{i,t} + \delta_5 PostProtest_t * HighAvoidance_{i,t} + \Sigma\beta_k Controls_{i,t} + \varepsilon$.

[28] Recall that equation (2) is $Hedge_m = \alpha + \theta_1 Protest_m + \theta_2 PostProtest_m + \beta MKT\_RF_m + sSMB_m + hHML_m + mMOM_m + \varepsilon$

[29] Recall that equation (3) is $ETR_{i,t} = \beta_0 + \beta_1 Protest_t + \beta_2 PostProtest_t + \Sigma\beta_k Controls_{i,t} + \varepsilon$. We do not set "protest" equal to 2010 in this placebo analysis because doing so would result in *PostProtest* overlapping with part of the true post-protest period. Specifically, *PostProtest* would equal one for 2011 and 2012, with 2012 representing the post-protest period in reality.

Table 5, we find in all specifications that the coefficient on *PostProtest* is significantly greater when estimated using a sample of firms experiencing higher reputational costs during the protest period relative to the coefficient on *PostProtest* estimated using a sample of firms experiencing lower reputational costs during the protest period. In contrast, the coefficients on *PostProtest* are not significantly greater among firms experiencing higher reputational costs in the "protest" period in any of the eight specifications presented in Panel C.

Collectively, the results in Table 6 provide compelling evidence that our event window is unique and represents a period of heightened scrutiny of tax avoidance activities.

6.2. Differentiating Reputational Costs from Political Costs

Although political and reputational costs are distinct types of costs, it is empirically difficult to disentangle these costs because a given action or event can simultaneously result in both types of costs (e.g., environmental disasters such as the BP oil spill, accounting frauds such as the Enron/Arthur Anderson scandal, market crises such as the S&L scandal and the 2008 financial crisis).[30] As a result, studies provide evidence of political and reputational costs in differing degrees and often rely on imperfect tests to distinguish between the two types of costs.

Our analyses are intended to examine the incidence, valuation and management of tax-related reputational costs. Although there was never a substantial threat of tax-related legislation as a result of the 2011 protests considered in this study, we repeat all three stages of our analyses after excluding firms in politically-sensitive industries. This alleviates concerns that our results may be due to political, rather than reputational, costs. Following Julio and Yook (2012) and Dyreng et al. (2016), we define politically-sensitive industries as the tobacco products, healthcare, pharmaceutical products, defense, petroleum and natural gas, telecommunications, and transportation industries.

We report results from re-estimating our analyses after excluding politically-sensitive

[30] Similar to the views expressed in Mills et al. (2013), we view the political process as a competition for government wealth transfers (Stigler 1971; Peltzman 1976; Watts and Zimmerman 1986) and define a political cost as either (1) a direct cost resulting from a negative government wealth transfer (e.g., increased taxes, increased government regulation, decreased subsidies, etc.) or (2) a cost incurred to deflect or preempt negative government wealth transfers (e.g., lobbying, downward earnings management, etc.).

industries in Table 7. Consistent with our results not being driven by political costs, we continue to find that (1) high tax avoidance firms experience mediated reputational costs during the protest period (Panel A), (2) high tax avoidance firms are valued less during the protest period (Panels B and C), and (3) firms experiencing reputational costs during the protest period decrease their tax avoidance in subsequent years (Panel D). These results stand in contrast to those results presented in Dyreng et al. (2016) which are only significant in politically-sensitive industries. Collectively, the results presented in this section alleviate concerns that our results are driven by political, rather than reputational, costs.

7. Conclusion

In this study, we examine the incidence, valuation, and management of tax-related reputational costs during a period of increased scrutiny of corporate tax avoidance. Using the wave of social protests that crossed the U.S. in 2011 as such a period, we report three main results. First, consistent with firms incurring mediated tax-related reputational costs, we find that high levels of tax avoidance are positively associated with negative media sentiment during the protest period, but not during the pre- and post-protest periods. Second, consistent with high tax avoidance firms being valued less than low tax avoidance firms during the protest period relative to the non-protest periods, we find that a hedge portfolio long (short) in firms exhibiting low (high) levels of tax avoidance generates significant positive abnormal stock returns during the protest period but insignificant returns during the pre- and post-protest periods. Third, consistent with firms taking actions to manage reputational costs, we find firms experiencing the largest mediated reputational costs during the protest period exhibit higher ETRs (i.e., lower levels of tax avoidance) in the post-protest period.

The results presented in the study are important for several reasons. First, this study contributes to the tax avoidance literature examining the incidence of tax-related reputational costs. Despite anecdotes suggesting corporate tax avoidance poses a significant risk to corporate reputation (e.g., Baker 2012; Shulman 2009), large sample evidence on the reputational costs of tax avoidance is scarce. By focusing on a period of increased scrutiny of corporate tax

avoidance, we are able to provide large-sample evidence suggesting that firms *do* incur tax-related reputational costs, but potentially only during periods characterized by high scrutiny of corporate tax avoidance.

Second, this study contributes to the literature examining how reputational damage affects firm value. Whereas prior studies generally focus on reputational damage resulting from firm-specific events such as earnings restatements and lawsuits, we focus on reputational damage driven by forces that are exogenous to the firm that alter scrutiny of corporate tax avoidance. In doing so, we provide evidence on how shifting perceptions of corporate behavior can affect firm value and on how firms can manage those reputational costs.

Third, this study contributes to the literature examining the role of the media in the dissemination, perception, and valuation of accounting information. Whereas prior studies generally focus on the media's role in the dissemination of accounting information (e.g., Miller 2006; Bushee, Core, Guay, and Hamm 2010; Dyck, Morse, and Zingales 2010; Li, Ramesh and Shen 2011; Drake, Guest, and Twedt 2014), we focus on the media's role in shaping the public perception of such information. In doing so, we provide evidence consistent with media attention altering the valuation of accounting information and ultimately altering corporate behavior.

Finally, this is one of only a few studies to examine the impact of activist groups on corporate behavior in an accounting context. The results in this study indicate that activist groups can challenge corporations more generally by influencing the public perception of specific behaviors and threatening the reputation of corporations engaging in that behavior. By examining the incidence, valuation and management of tax-related reputational costs, some of which have immediate and direct cash flow effects on the firm, our study complements prior studies documenting the impact of social activism on firms' financial reporting and disclosure practices (e.g., Islam and van Staden 2017; O'Sullivan and O'Dwyer 2015).

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Appendix A - Variables

Variable	Description
Advertising	The firm's advertising expense (*XAT)* divided by sales (*SALE*)
Distress	An indicator variable equal to one if the firm has Altman Z-score greater than 1.8 and equal to zero otherwise
ETR	The firm's GAAP effective tax rate, equal to tax expense (*TXT*) divided by pre-tax income (*PI*) less special items (*SPI*), truncated between negative one and one
ETR3	The firm's three year GAAP effective tax rate, equal to the sum of total tax expense (*TXT*) divided by pre-tax income (*PI*) less special items (*SPI*) over the same period, truncated between negative one and one
ETR5	The firm's five year GAAP effective tax rate, equal to the sum of total tax expense (*TXT*) divided by pre-tax income (*PI*) less special items (*SPI*) over the same period, truncated between negative one and one
FPROA	The firm's foreign pretax income (*PIFO*) divided by lagged total assets (*AT*)
HighAvoidance	An indicator variable equal to one if the firm's long-run effective tax rate (*ETR3* or *ETR5*) is in the lowest three deciles for its industry-year and equal to zero otherwise
Inventory	The firm's inventory (*INVT*) divided by lagged total assets (*AT*)
Leverage	The firm's total debt (*DLC* + *DLTT*) scaled by total assets (AT)
LnSales	The natural log of the firm's sales (*SALE*)
NegMonthlySentiment	A monthly indicator variable equal to one if the firm's *Sentiment* score is in the bottom three deciles of all firms in that month and equal to zero otherwise
NegativeSentiment%	The percentage of months during the year where *NegativeSentiment* is equal to one
NOL	An indicator variable equal to one if the firm has a tax loss carryforward (*TLCF*) and equal to zero otherwise
Options	The ratio of option's exercised by the top five executives (EXECUXOMP OPT_EXER_VAL) to sales.

Appendix A – Variables (continued)

Variable	Description
PostProtest	An indicator variable equal to one for the 2012 and 2013 COMPUSTAT fiscal years and equal to zero otherwise
PP&E	The firm's property, plant, and equipment (*PPEGT*) scaled by lagged total assets (*AT*)
PretaxDiscAccr	The firm's pretax performance-matched discretionary accruals as estimated in Frank, Lynch, and Rego (2009)
PROA	The firm's pre-tax income (*PI*) scaled by lagged total assets (AT)
Protest	An indicator variable equal to one for the 2011 COMPUSTAT fiscal year and equal to zero otherwise
R&D	The firm's research and development (*XRD*) scaled by sales (*SALE*)
SalesGrowth	The firm's current sales (*SALE*) minus lagged sales, divided by lagged sales
Sentiment	The firm's monthly *Company Sentiment Indicator* score (from RavenPack).
StdDevPROA	The 3-year standard deviation of *PROA*
ΔTLCF	The change in the ratio of tax loss carryforwards to assets (*TLCF/AT*) from year *t-1* to year *t*.

Table 1
Sample Selection

Data Restrictions	N	Used in Table(s)
Media Sentiment Sample		
Starting Compustat sample of U.S. firms from fiscal years 2009 to 2013 after excluding financial and utility firms and loss firms	11,444	
Less firms without RavenPack data	-2,870	
Less firms without data to compute tax measures	-2,030	
Less firms without data to compute control variables	-1,446	
	5,098	3
Less firms operating in politically-sensitive industries	-910	
	4,188	8a
Firm Value: Hedge-Portfolio Analysis Sample		
Number of firm-months with non-missing CRSP return data, tax measures, and control variables (2009-2013)	65,199	
Number of monthly observations used in hedge portfolio analysis (2009-2013)	60	4
Number of firm-months with non-missing CRSP return data, tax measures, and control variables (2009-2013)	65,199	
Less firms operating in politically-sensitive industries	-12,036	
	53,163	
Number of monthly observations used in hedge portfolio analysis (2009-2013)	60	8b,8c
Tax Avoidance Sample		
Starting Media Sentiment Sample	5,098	
Less firms without changes in RavenPack data for fiscal year 2011 and one-year tax measures	-1,111	
	3,987	5
Less firms operating in politically-sensitive industries	-770	
	3,217	8d

Table 2
Descriptive Statistics

Panel A: Pooled Sample

Variables	Mean	StdDev	P10	Q1	Median	Q3	P90
Time Periods							
Protest	0.2109	0.4080	0.0000	0.0000	0.0000	0.0000	1.0000
PostProtest	0.4021	0.4904	0.0000	0.0000	0.0000	1.0000	1.0000
Corporate Sentiment Measures							
Sentiment	0.2389	0.1898	0.0000	0.0833	0.2500	0.3333	0.5000
Tax Avoidance Measures							
ETR3	0.2637	0.1722	0.0962	0.2140	0.3019	0.3555	0.3893
ETR5	0.2656	0.1669	0.1045	0.2194	0.3013	0.3540	0.3873
Control Variables							
PROA	0.1207	0.0864	0.0333	0.0615	0.1010	0.1570	0.2344
LnSale	7.0545	1.8081	4.7244	5.8902	7.0366	8.2116	9.4161
SalesGrowth	0.0866	0.1876	-0.1043	-0.0084	0.0645	0.1550	0.2918
BM	0.5132	0.3438	0.1656	0.2813	0.4432	0.6761	0.9371
FPROA	0.0306	0.0473	0.0000	0.0000	0.0087	0.0479	0.0912
Leverage	0.1843	0.1683	0.0000	0.0266	0.1627	0.2822	0.4060
PP&E	0.5299	0.3938	0.1187	0.2248	0.4175	0.7542	1.1137
Inventory	0.1302	0.1302	0.0000	0.0197	0.1014	0.1900	0.3139
Advertising	0.0107	0.0246	0.0000	0.0000	0.0000	0.0079	0.0344
R&D	0.0350	0.0591	0.0000	0.0000	0.0049	0.0406	0.1265
PretaxDiscAccr	-0.0028	0.0613	-0.0725	-0.0365	-0.0040	0.0289	0.0662
NOL	0.5108	0.4999	0.0000	0.0000	1.0000	1.0000	1.0000
StdDevPROA	0.0446	0.0445	0.0086	0.0161	0.0306	0.0563	0.0968
Distress	0.0914	0.2882	0.0000	0.0000	0.0000	0.0000	0.0000
ΔTLCF	-0.0058	0.0478	-0.0259	-0.0020	0.0000	0.0000	0.0125
Options	0.0226	0.0739	0.0000	0.0000	0.0000	0.0097	0.0466
MissingOptions	0.4298	0.4951	0.0000	0.0000	0.0000	1.0000	1.0000

Table 2 (continued)
Descriptive Statistics

Panel B: Descriptive Statistics by Time Period

	Means			Medians		
	PreProtest	*Protest*	*PostProtest*	*PreProtest*	*Protest*	*PostProtest*
Variable	2009-10	2011	2012-13	2009-10	2011	2012-13
Corporate Sentiment Measures						
$Sentiment_t$	0.2389	0.2495	0.2334	0.2222	0.2500	0.1818
Tax Avoidance Measures						
ETR3	0.2745	0.2584	0.2560	0.3134	0.2963	0.2929
ETR5	0.2746	0.2664	0.2565	0.3138	0.3012	0.2916
Control Variables						
PROA	0.1201	0.1315	0.1155	0.0990	0.1119	0.0979
LnSale	6.9012	7.0669	7.1957	6.8244	7.0561	7.2158
SalesGrowth	0.0639	0.1558	0.0722	0.0419	0.1193	0.0553
BM	0.5132	0.5473	0.4953	0.4485	0.4783	0.4264
FPROA	0.0292	0.0345	0.0300	0.0048	0.0109	0.0114
Leverage	0.1734	0.1802	0.1968	0.1539	0.1589	0.1777
PP&E	0.5216	0.5415	0.5320	0.4148	0.4252	0.4192
Inventory	0.1243	0.1382	0.1317	0.0935	0.1110	0.1039
Advertising	0.0108	0.0106	0.0107	0.0000	0.0000	0.0000
R&D	0.0350	0.0339	0.0355	0.0044	0.0038	0.0056
PretaxDiscAccr	-0.0049	0.0003	-0.0025	-0.0061	-0.0019	-0.0036
NOL	0.4800	0.5088	0.5415	0.0000	1.0000	1.0000
StdDevPROA	0.0505	0.0489	0.0367	0.0348	0.0337	0.0258
Distress	0.0872	0.0940	0.0941	0.0000	0.0000	0.0000
$\Delta TLCF$	-0.0070	-0.0043	-0.0056	0.0000	0.0000	0.0000
Options	0.0209	0.0265	0.0220	0.0000	0.0000	0.0000
MissingOptions	0.4176	0.4251	0.4439	0.0000	0.0000	0.0000

See Appendix A for variable definitions. All continuous variables are winsorized at the 1st and 99th percentiles.

Table 3

The Relation between Negative Corporate Sentiment and Tax Avoidance During Periods of High Scrutiny

HighAvoidance based on:		*ETR3*		*ETR5*	
Variable	Pred.	Coef. (std. err)		Coef. (std. err)	
Intercept	?	0.1543	***	0.1568	***
		(0.0351)		(0.0350)	
Protest	?	-0.0006		-0.0020	
		(0.0084)		(0.0084)	
PostProtest	?	-0.0184	***	-0.0176	***
		(0.0065)		(0.0065)	
HighAvoidance	?	-0.0225	**	-0.0195	*
		(0.0101)		(0.0101)	
*Protest*HighAvoidance*	+	0.0425	***	0.0467	***
		(0.0146)		(0.0145)	
*PostProtest*HighAvoidance*	?	0.0124		0.0095	
		(0.0112)		(0.0110)	
$NegSentiment\%_{t-1}$	+	0.1889	***	0.1894	***
		(0.0153)		(0.0152)	
PROA	?	-0.1603	***	-0.1584	***
		(0.0421)		(0.0419)	
LnSale	?	0.0156	***	0.0155	***
		(0.0023)		(0.0023)	
SalesGrowth	?	-0.0585	***	-0.0581	***
		(0.0160)		(0.0160)	
BM	?	0.0155		0.0151	
		(0.0099)		(0.0099)	
FPROA	?	-0.0315		-0.0381	
		(0.0730)		(0.0719)	
Leverage	?	0.1247	***	0.1239	***
		(0.0230)		(0.0230)	
PP&E	?	-0.0069		-0.0073	
		(0.0097)		(0.0097)	
Inventory	?	0.0230		0.0243	
		(0.0338)		(0.0337)	
Advertising	?	0.0281		0.0300	
		(0.1291)		(0.1292)	
R&D	?	0.0774		0.0766	
		(0.0568)		(0.0569)	
PretaxDiscAccr	?	-0.1507	***	-0.1505	***
		(0.0439)		(0.0439)	
NOL	?	0.0086		0.0087	
		(0.0058)		(0.0058)	
StdDevPROA	?	0.3332	***	0.3276	***
		(0.0677)		(0.0678)	
Distress	?	0.0167		0.0166	
		(0.0113)		(0.0113)	
ΔTLCF	?	0.0708		0.0717	
		(0.0574)		(0.0574)	
Options	?	-0.0038		-0.0049	
		(0.0346)		(0.0348)	
N		5,098		5,098	
Adj R^2		0.1345		0.1347	

This table presents the results from estimating OLS regressions of equation (1). The sample consists of observations from fiscal years 2009 to 2013. Financial firms and utilities are excluded. *NegMonthlySentiment* equals one for firm-month observations exhibiting a RavenPack Company Sentiment Score in the bottom third of all firms in month *m*, and zero otherwise. The dependent variable, *NegSentiment%*, equals a firm's average $NegMonthlySentiment_m$ during year *t* and captures the percentage of months during year *t* in which the company experiences negative media sentiment. *HighAvoidance* equals one for firm-years in year *t* exhibiting a tax rate in the lowest three deciles in their industry within year *t*, and zero otherwise. *Protest* equals one for fiscal year 2011, and zero otherwise; *PostProtest* equals one for fiscal years 2012 and 2013, and zero otherwise. Additional variable definitions are presented in Appendix A. All continuous variables are winsorized at the 1st and 99th percentiles. Regression models include untabulated industry fixed effects. Huber-White robust standard errors clustered by firm are used to control for heteroscedasticity and serial correlation. *** denotes significance at the 1% level, ** at the 5% level, and * at the 10% level (one-tailed for hypothesized relations, two-tailed otherwise).

Table 4
The Relation between Tax Avoidance and Firm Value During Periods of High Scrutiny: A Tax-based Calendar-time Hedge Portfolio Approach

Panel A: Calendar-time hedge portfolios based on ETRs

		ETR3		ETR5	
Variable	Pred.	Coef. (std. err)		Coef. (std. err)	
Intercept	?	-0.0022		-0.0027	
		(0.0025)		(0.0027)	
Protest	+	0.0109	***	0.0094	***
		(0.0029)		(0.0030)	
PostProtest	?	0.0038		0.0038	
		(0.0031)		(0.0034)	
N		60		60	
Adj R^2		0.4516		0.3650	

Panel B: Calendar-time hedge portfolios based on ETR rankings within industry-year subsamples

		ETR3		ETR5	
Variable	Pred.	Coef. (std. err)		Coef. (std. err)	
Intercept	?	-0.0015		-0.0021	
		(0.0023)		(0.0024)	
Protest	+	0.0102	***	0.0083	***
		(0.0027)		(0.0027)	
PostProtest	?	0.0033		0.0029	
		(0.0028)		(0.0030)	
N		60		60	
Adj R2		0.4323		0.4304	

This table presents the results from estimating OLS regressions of equation (2). Panel A (Panel B) examines whether calendar-time portfolios based on purchasing firms each month in the lowest three deciles of tax avoidance (tax avoidance based on industry-year subsamples) and selling short firms each month in the highest three deciles of tax avoidance (tax avoidance based on industry-year subsamples) yield positive abnormal returns during periods of high tax scrutiny. The portfolio returns are regressed on the Fama and French (1993) three factors and the Carhart (1997) momentum factor (untabulated). The coefficient on the intercept measures the average monthly abnormal return of the portfolio over the sample period (2009 to 2013). The coefficient on *Protest*, which equals one for fiscal year 2011 and zero otherwise, indicates the differential abnormal return of the portfolio during a period of high scrutiny. The coefficient on *PostProtest*, which equals one for fiscal years 2012 and 2013 and zero otherwise, indicates the differential abnormal return of the portfolio during 2012 and 2013. *** denotes significance at the 1% level, ** at the 5% level, and * at the 10% level (one-tailed for hypothesized relations, two-tailed otherwise).

Table 5
Changes in Corporate Sentiment and Tax Avoidance During Periods of High Scrutiny

		All Firms	Δ > Median	Δ < Median
Variable	Pred.	Coef. (std. err)	Coef. (std. err)	Coef. (std. err)
Intercept	?	0.3078 ***	0.3187 ***	0.3364 ***
		(0.0591)	(0.0878)	(0.0604)
Protest	?	-0.0187 **	-0.0166	-0.0259 *
		(0.0089)	(0.0115)	(0.0136)
PostProtest	?/?/+	0.0025	-0.0323	0.0332 ***
		(0.0083)	(0.0119)	(0.0111)
PROA	+	0.5978 ***	0.6042 ***	0.6477 ***
		(0.0689)	(0.1019)	(0.0943)
Sale	?	-0.0003	0.0007	-0.0002
		(0.0030)	(0.0044)	(0.0042)
SalesGrowth	?	-0.0511 **	-0.0180	-0.0778 ***
		(0.0203)	(0.0285)	(0.0287)
BM	?	0.0282	0.0055	0.0550 **
		(0.0187)	(0.0245)	(0.0278)
FPROA	-	-0.4725 ***	-0.5411 ***	-0.4257 ***
		(0.0972)	(0.1382)	(0.1330)
Leverage	-	-0.0335	0.0050	-0.0449
		(0.0312)	(0.0487)	(0.0406)
PP&E	-	-0.0338 **	-0.0449 **	-0.0462 **
		(0.0165)	(0.0254)	(0.0228)
Inventory	+	-0.0091	0.0199	-0.0261
		(0.0483)	(0.0612)	(0.0719)
Advertising	?	0.0197	-0.1758	0.0732
		(0.1811)	(0.2567)	(0.2544)
R&D	-	-0.3902 ***	-0.3242 ***	-0.4553 ***
		(0.0896)	(0.1223)	(0.1321)
PretaxDiscAccr	-	-0.0131	-0.0281	-0.0471
		(0.0677)	(0.0911)	(0.1005)
NOL	-	-0.0184 ***	-0.0275 ***	-0.0096
		(0.0079)	(0.0108)	(0.0114)
StdDevPROA	?	-0.4285 ***	-0.5146 ***	-0.3561 ***
		(0.1013)	(0.1699)	(0.1187)
Distress	-	-0.0211	0.0054	-0.0350 *
		(0.0165)	(0.0207)	(0.0256)
Δ*TLCF*	+	0.6438 ***	0.6580 ***	0.6174 ***
		(0.1286)	(0.2045)	(0.1574)
Options	?	0.0991 *	0.1018	0.0802
		(0.0520)	(0.0795)	(0.0691)
Test: $\beta_{2,\Delta<Median} > \beta_{2,\Delta>Median}$				*(p < 0.01)*
N		3,987	1,951	2,036
Adj R^2		0.1351	0.1290	0.1578

This table presents the results from estimating OLS regressions of equation (3), which is $ETR_{i,t} = \beta_0 + \beta_1 Protest_t + \beta_2 PostProtest_t + \Sigma\beta_k Controls_{i,t} + \varepsilon$. The sample consists of observations from 2009-2013. Financial firms and utilities are excluded. The dependent variable, ETR, is bounded at negative one and one. *Protest* equals one for fiscal year 2011, and zero otherwise. *PostProtest* equals one for 2012 and 2013, and zero otherwise. Additional variable definitions are presented in Appendix A. All continuous variables are winsorized at the 1st and 99th percentiles. Regression models include untabulated industry fixed effects. Huber-White robust standard errors clustered by firm are used to control for heteroscedasticity and serial correlation. *** denotes significance at the 1% level, ** at the 5% level, and * at the 10% level (one-tailed for hypothesized relations, two-tailed otherwise).

Table 6

Summary of Placebo Analyses

Panel A: Examining the relation between negative corporate sentiment and tax avoidance during periods of "high" scrutiny

	*Coefficient and significance of the Protest*HighAvoidance interaction when the protest period is redefined as:*																	
HighAvoidance based on:	2002		2003		2004		2005		2006		2007		2008		2009		2010	
ETR3	0.0083		-0.0195		-0.0109		0.0185		0.0062		-0.0294	**	-0.0192		0.0003		0.0151	
ETR5	0.0048		-0.0104		-0.0126		0.0228	*	0.0136		-0.0243		-0.0237	*	0.0007		0.0109	

Panel B: Examining the relation between tax avoidance and firm value during periods of "high" scrutiny

	Coefficient and significance of Protest when the protest period is redefined as:																	
HighAvoidance based on:	2002		2003		2004		2005		2006		2007		2008		2009		2010	
ETR3	0.0131	**	-0.0042		0.0010		0.0035		-0.0038		-0.0018		-0.0008		-0.0029		0.0040	
ETR5	0.0119	*	-0.0097	*	0.0018		0.0028		-0.0065	**	0.0026		0.0003		-0.0071		0.0045	
ETR3 (Ind-Adj)	0.0091	**	-0.0024		0.0003		0.0019		-0.0032		0.0039		-0.0046		-0.0019		0.0068	**
ETR5 (Ind-Adj)	0.0097	**	-0.0088	*	0.0010		0.0008		-0.0044		0.0050		-0.0001		-0.0037		0.0054	

Panel C: Examining the relation between changes in corporate sentiment and tax avoidance following periods of "high" scrutiny

	Do firms experiencing larger declines in corporate sentiment decrease tax avoidance relative to firms experiencing smaller declines in corporate sentiment when the protest period is redefined as:							
Dependent variable:	2002	2003	2004	2005	2006	2007	2008	2009
ETR	No	No	No	No	No	No	No	No

This table presents results from conducting a series of placebo analyses. In these analyses, we re-estimate our primary tests after selecting different pre-protest, protest and post-protest periods. Each column in each panel states what year is deemed to be the "protest" period, with the pre-protest (post-protest) period equal to the two years preceding (following) the "protest" period. Panel A presents the coefficient on the *Protest*HighAvoidance* interaction after re-estimating equation (1), which is $NegSentiment\%_{i,t} = \delta_0 + \delta_1 Protest_t + \delta_2 PostProtest_t + \delta_3 HighAvoidance_{i,t} + \delta_4 Protest_t * HighAvoidance_{i,t} + \delta_5 PostProtest_t * HighAvoidance_{i,t} + \delta_6 NegSentiment\%_{i,t-1} + \Sigma\beta_k Controls_{i,t} + \varepsilon$, and can be compared to the analogous coefficient presented in Table 3. Panel B presents the coefficient on *Protest* after re-estimating equation (2), which is $Hedge_m = \alpha + \theta_1 Protest_t + \theta_2 PostProtest_t + \beta MKT\_RF_t + sSMB_t + hHML_t + mMOM_t + \varepsilon$, and can be compared to the analogous coefficient presented in Table 4. Panel C is based on re-estimating equation (3), which is $ETR_{i,t} = \beta_0 + \beta_1 Protest_t + \beta_2 PostProtest_t + \Sigma\beta_k Controls_{i,t} + \varepsilon$, and reports whether the coefficient on *PostProtest* is significantly greater (indicative of increased ETRs and less tax avoidance) among firms experiencing greater media-related reputational costs during the "protest" period relative to firms experiencing lower reputational costs. These results can be compared to the test of the differences in coefficients on *PostProtest* presented in Table 5.

Table 7
The Incidence, Valuation, and Management of Tax-related Reputational Costs:
Excluding Politically-Sensitive Industries

Panel A: The Relation between Negative Corporate Sentiment and ETRs During Periods of High Scrutiny

HighAvoidance based on:		*ETR3*		*ETR5*	
Variable	Pred.	Coef. (std. err)		Coef. (std. err)	
Protest	?	-0.0016		-0.0043	
		(0.0095)		(0.0096)	
PostProtest	?	-0.0182	**	-0.0185	**
		(0.0074)		(0.0074)	
HighAvoidance	?	-0.0200	*	-0.0184	*
		(0.0108)		(0.0109)	
*Protest*HighAvoidance*	+	0.0389	***	0.0469	***
		(0.0158)		(0.0158)	
*PostProtest*HighAvoidance*	?	0.0132		0.0140	
		(0.0121)		(0.0120)	
N		4,188		4,188	
Adj R^2		0.1276		0.1280	

Panel B: Calendar-time hedge portfolios based on ETRs

Hedge returns based on:		ETR3		ETR5	
Variable	Pred.	Coef. (std. err)		Coef. (std. err)	
Intercept	?	-0.0023		-0.0031	
		(0.0026)		(0.0030)	
Protest	+	0.0111	***	0.0125	***
		(0.0039)		(0.0041)	
PostProtest	?	0.0048		0.0054	
		(0.0033)		(0.0035)	
N		60		60	
Adj R^2		0.4323		0.4062	

Panel C: Calendar-time hedge portfolios based on ETRs rankings within industry-year subsamples

Hedge returns based on:		ETR3		ETR5	
Variable	Pred.	Coef. (std. err)		Coef. (std. err)	
Intercept	?	-0.0016		-0.0010	
		(0.0026)		(0.0023)	
Protest	+	0.0116	***	0.0099	***
		(0.0033)		(0.0035)	
PostProtest	?	0.0034		0.0029	
		(0.0034)		(0.0029)	
N		60		60	
Adj R^2		0.3991		0.4763	

Table 7 (continued)
The Incidence, Valuation, and Management of Tax-related Reputational Costs:
Excluding Politically-Sensitive Industries

Panel D: The Relation between Changes in Sentiment and ETRs During Periods of High Scrutiny

		(1)	(2)	(3)	
		All Firms	Δ > Median	Δ < Median	
		Coef.	Coef.	Coef.	
Variable	Pred.	(std. err)	(std. err)	(std. err)	
Protest	?	-0.0127	-0.0100	-0.0222	
		(0.0099)	(0.0122)	(0.0157)	
PostProtest	+	0.0032	-0.0322	0.0308	***
		(0.0090)	(0.0129)	(0.0121)	
N		3,217	1,565	1,652	
Adj R^2		0.1225	0.1249	0.1488	

Panel A presents results from re-estimating the analysis from Table 3 (equation (1): $NegSentiment\%_{i,t} = \delta_0 + \delta_1 Protest_t + \delta_2 PostProtest_t + \delta_3 HighAvoidance_{i,t} + \delta_4 Protest_t * HighAvoidance_{i,t} + \delta_5 PostProtest_t * HighAvoidance_{i,t} + \delta_6 NegSentiment\%_{i,t-1} + \Sigma\beta_k Controls_{i,t} + \varepsilon$) after excluding firms operating in politically-sensitive industries as defined in Julio and Yook (2012) and Dyreng, Hoopes and Wilde (2016). Panels B and C present results from re-estimating analyses presented in Tables 4 (equation (2): $Hedge_t = \alpha + \theta_1 Protest_t + \theta_2 PostProtest_t + \beta MKT\_RF_t + sSMB_t + hHML_t + mMOM_t + \varepsilon$) after excluding firms operating in politically-sensitive industries. Panel D presents results from re-estimating analyses presented in Tables 5 (equation (3): $TAX_{i,t} = \beta_0 + \beta_1 Protest_t + \beta_2 PostProtest_t + \Sigma\beta_k Controls_{i,t} + \varepsilon$) after excluding firms operating in politically-sensitive industries. Regression models include untabulated control variables and industry fixed effects. *Protest* equals one for fiscal year 2011, and zero otherwise. *PostProtest* equals one for 2012 and 2013, and zero otherwise. Additional variable definitions are presented in Appendix A. All continuous variables are winsorized at the 1st and 99th percentiles. Huber-White robust standard errors clustered by firm are used to control for heteroscedasticity and serial correlation. *** denotes significance at the 1% level, ** at the 5% level, and * at the 10% level (one-tailed for hypothesized relations, two-tailed otherwise).