THE EFFECT OF MANAGERIAL REPUTATION ON CORPORTATE TAX AVOIDANCE

by

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DISSERTATION ABSTRACT

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Prior literature suggests that tax avoidance is an effective way to enhance firm value. However, there appears to be considerable cross-sectional variation in tax avoidance, and it is not clear why some firms do not take full advantage of the tax avoidance opportunities being used by others. This study examines whether managerial reputation, as proxied by high-profile awards to top managers, is helpful in explaining corporate tax avoidance. The empirical results show that, relative to a matched control group, firms managed by a celebrity manager have significantly higher cash and GAAP effective tax rates in the three year period following the manager's first award than preceding the award. This result is consistent with the conjecture that celebrity managers, for fear of being labeled as "poor citizens," engage in less tax avoidance once they have an established reputation.

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CHAPTER I

INTRODUCTION

Prior studies on tax avoidance document that tax avoidance is an effective way to increase after-tax earnings and enhance firm value (e.g., Dyreng, Hanlon, and Maydew 2008).[1] While empirical evidence suggests that tax avoidance strategies are abundant and pervasive, the literature documents significant variation in tax avoidance across firms. However, there is still little understanding of why some firms do not take full advantage of the tax avoidance opportunities being used by others (Shackelford and Shevlin 2001; Hanlon and Heitzman 2010). In this study, using high-profile awards to managers as a proxy for managerial reputation, I examine whether managerial reputation helps explain firms' tax avoidance. Specifically, I analyze changes in the level of tax avoidance before and after celebrity managers win their first high-profile award sponsored by a major business publication such as *Business Week*, *Forbes*, *Fortune*, or *Time*.

Taxes represent a significant cost to the company and a reduction in shareholders' wealth since companies, on average, pay over one-third of their pre-tax profits in tax (Chen et al. 2010). Given the significance of this tax cost to the firm and shareholders, managing taxes is an important part of the job of senior managers (e.g., Chief Executive Officer, Chief Financial Officer, and other top executives). Shareholders expect managers to focus on profit maximization. This may include tax avoidance, which can lead to a wealth transfer from the government to shareholders. Therefore, if managers' interest is perfectly aligned with shareholders' interests, managers have incentive to

[1] Following prior literature, I define tax avoidance "broadly to encompass anything that reduces the firm's taxes relative to its pre-tax accounting income (Dyreng, Hanlon, and Maydew 2010)." Therefore, tax avoidance captures "both certain tax positions (e.g., municipal bond investments) as well as uncertain tax positions that may or may not be challenged and determined illegal (Hanlon and Heitzman 2010)."

reduce tax liabilities as long as the expected incremental benefit exceeds the incremental cost. However, Dyreng, Hanlon, and Maydew (2010) find that the level of corporate tax avoidance significantly varies among individual managers. Given the pervasiveness of tax avoidance strategies, this finding suggests that the incremental net benefits of tax avoidance, defined as the incremental benefits minus the incremental costs of tax avoidance, differ across individual managers.

Anecdotal evidence often suggests that managers' reputation concerns are a factor that limits tax avoidance. For example, as described in Hanlon and Slemrod (2009), some firms invoke a "*Wall Street Journal*" test in their decision-making regarding tax avoidance (e.g., would it look unsavory if the company and its manager were reported on the front page of the *Wall Street Journal* for its tax avoidance?). In addition, a recent controversy on General Electric's legal but aggressive tax avoidance strategies has drawn substantial public attention. The *New York Times* criticized Jeffrey R. Immelt, the CEO of G.E., for paying no taxes but claiming a tax benefit of $3.2 billion even though G.E. reported $5.1 billion in profits coming from its operations in the United States in 2010.[2] Presumably in fear of being labeled a "poor corporate citizen," G.E. immediately responded by stating that the *New York Times* erroneously suggested the company made use of tax loopholes or innovative accounting.[3]

Similarly, in their survey of tax executives, Graham, Hanlon, and Shevlin (2011) provides initial evidence on the managers' reputation concern regarding tax avoidance. They find that 45 percent of executives agree that potential reputation damage is a "very important" factor in the decision of whether or not to implement a tax planning strategy.

[2] http://www.nytimes.com/2011/03/25/business/economy/25tax.html?_r=2

[3] http://www.gereports.com/setting-the-record-straight-ge-and-taxes/

They also show that more than one third of executives indicate that the risk of adverse media attention is very important in the decision-making process with respect to tax avoidance.

In addition to the public backlash regarding lack of corporate citizenship, prior studies suggest tax avoidance may damage managerial reputation by incurring a "suspicion cost." Hanlon and Slemrod (2009) argue that investors interpret a firm's tax aggressiveness as evidence not only about a firm's behavior toward the tax authority, but also about its aggressiveness towards the investors. For example, if investors suspect that a manager who is aggressive in tax planning is also aggressive in reporting accounting earnings, then the manager's credibility on financial reporting may be seriously tarnished.

Based on the above discussion, I expect managers' reputation concern to play a role in their determination of the level of tax avoidance. Accordingly, I hypothesize that celebrity managers who have more to lose in terms of their own human capital engage in less tax avoidance after receiving their first high-profile award than prior to the award.

A major challenge in the managerial reputation literature is to create an empirical proxy for managers' reputation. This difficulty stems from the multi-dimensional nature of reputation. In this study, I use high-profile awards as a proxy for managerial reputation. Specifically, I exploit shifts in managerial reputation due to receipt of awards organized by major business publications. Data on high-profile awards come from various publications: *Business Week*, *Financial World*, *Chief Executive*, *Forbes*, *Fortune*, Morningstar.com, *Time*, and *Time/CNN*.

Following Dyreng, Hanlon, and Maydew (2010), I employ two standard measures for corporate tax avoidance: cash effective tax rate (*CASH ETR*: cash taxes paid divided

by pre-tax accounting income) and GAAP effective tax rate (*GAAP ETR*: total tax expense divided by pre-tax accounting income). Prior research suggests that lower values of *CASH ETR* and *GAAP ETR* represent higher levels of tax avoidance (e.g., Gupta and Newberry 1997; Rego 2003; Chen et al 2010; Dyreng, Hanlon, and Maydew 2010).

In an ideal empirical experiment, I would compare the change in tax avoidance of an award winner's firm to the same firm's change in tax avoidance had the manager not won the award (Malmendier and Tate 2009). However, since the counterfactual observation is not available, it is necessary to find an empirical proxy for the hypothetical change in tax avoidance without the reputation increase. Therefore, I construct a control sample of non-celebrity managers who are predicted to win awards. I refer to this nearest-neighbor matched sample as "predicted winners." These managers are chosen based on the similarity of their firms' economic condition and performance to those of firms managed by celebrity managers in the year of award. Then, to investigate the impact of managerial reputation on tax avoidance, I use a differences-in-differences design, which compares differences in changes of tax avoidance for the firms managed by celebrity managers to their matched control firms before and after each celebrity manager (or predicted winner) wins (or is predicted to win) their first high-profile award.

I find that, relative to firms managed by predicted winners, firms managed by celebrity managers have significantly higher *CASH ETR* and *GAAP ETR* in the three year period following their first award than in the three year period preceding the award. This result suggests that celebrity managers engage in less tax avoidance once they have an established reputation. In addition, I also find that, in the pre-award period, the level of

tax avoidance in firms managed by celebrity managers is not significantly different than the level of tax avoidance in firms managed by predicted winners. This finding suggests that the decreased tax avoidance in the post-award period is not likely explained by a mean reversion explanation in which celebrity mangers may become conservative after receiving the award because they engaged in a higher level of tax avoidance prior to the award compared to predicted winners.

My paper contributes to the literature in the following ways. First, this study contributes to literature on tax avoidance by providing evidence that managerial reputation helps explain corporate tax avoidance. While prior literature documents considerable variation in tax avoidance across firms, the literature does not adequately explain this variation by addressing the question as to why some firms forgo tax avoidance opportunities while others engage in it enthusiastically. My results provide evidence that celebrity managers engage in less tax avoidance once they have an established reputation, suggesting managers' reputation concern is one of the factors that limit tax avoidance activities.

Second, this study extends Dyreng, Hanlon, and Maydew (2010) by explicitly linking managerial reputation to corporate tax avoidance. Whereas prior studies largely ignore the role of manager-specific attributes on tax avoidance, Dyreng, Hanlon, and Maydew (2010) find that individual executives have incremental effects on their firms' tax avoidance that cannot be explained by firm characteristics. However, to date the literature has been unable to identify any specific managerial attributes that affect corporate tax avoidance. By considering a managerial human capital dimension (i.e.,

reputation) in explaining corporate tax avoidance, this study complements Dyreng, Hanlon, and Maydew (2010).

Finally, this study contributes to the literature on the reputation effect of business stakeholders, which suggests that the actions of business stakeholders are affected by reputation concerns. Prior studies (Becker et al. 1998; Fang and Yasuda 2009) argue that the reputation of business stakeholders (e.g., auditors and financial analysts) serves to encourage worker discipline. While these studies illuminate a bright side of the reputation effect, my results show that celebrity managers act in opportunistic ways that are possibly detrimental to firm value in order to preserve their personal reputation during their tax planning activities.

The rest of this paper is organized as follows. Chapter II develops the hypothesis and discusses the related literature. Chapter III presents the data and research design, and Chapter IV presents the empirical result of the main test. Chapter V includes sensitivity analyses. Chapter VI concludes.

CHAPTER II

PRIOR RESEARCH AND HYPOTHESIS DEVELOPMENT

Literature on Reputation Effect

"The reputation of a thousand years may be determined by the conduct of one hour." [4]

- *Japanese proverb*

Maintaining a good reputation is an important incentive for business stakeholders in their decision-making. Klewes and Wreschniok (2010) argue that reputation is one of the most valuable forms of a player's "capital" because a good reputation gives rise to a sustainable competitive advantage for players (Bharadwaj, Varadarajan, and Fahy 1993). Consistent with this argument, a long-standing literature documents the impact of reputation on a player's behavior (the so called "reputation effect").

For example, prior research on financial analysts suggests that the actions of professionals are affected by reputation concerns. Clarke et al. (2007) find that superstar analysts who are top-ranked on the Institutional Investor All-American surveys do not change their recommendation levels when they change jobs, consistent with these analysts resisting pressures from investment bankers in order to protect their reputation. Fang and Yasuda (2009) find that superstar analysts make more accurate and less positively biased forecasts than other analysts when aggregate underwriting volume in the equity new issues market is high, suggesting that analysts' reputation play as a disciplinary mechanism even when pressure to provide optimistic forecasts is high.

[4] This Japanese proverb is quoted in former Ohio State coach Jim Tressel's book, *The Winners Manual for The Game of Life* (p. 193). It became an ironic inclusion, since his reputation was later tarnished after he was caught breaking NCAA (National Collegiate Athletic Association) rules.

The auditing literature also finds that reputation is important to auditors, and auditors take actions to protect their reputations. Specifically, compared to non-Big N auditors, Big N auditors, who have more reputation capital, (1) allow less income-increasing earnings management via discretionary accruals (Becker et al. 1998), (2) are more conservative with respect to financial reporting uncertainties (Francis and Krishnan 1999), and (3) are less likely to allow their clients to have overstatement errors or irregularities (DeFond and Jiambalvo 1991).

The reputation effect is also evident in the literature on top executive managers. Baik et al. (2011) find that celebrity managers who have been cited more in the press provide more frequent and accurate management earnings forecasts. Moreover, the authors find that the market is more responsive to forecasts associated with these celebrity managers. Francis et al. (2008) argue that firms with poor innate earnings quality are more likely to hire reputed managers, proxied by media citation counts, because reputed managers are better able to manage these firms than are managers with little or no reputation.

While these studies illuminate a bright side of the reputation effect, Hayward and Hambrick (1997) show that celebrity managers who gain greater praise in the press are more likely to make inefficient investments (e.g., they pay higher acquisition premiums). Malmendier and Tate (2009) also argue that superstar managers overemphasize their personal career enhancements by spending more time on activities outside their companies, such as writing books or joining outside boards, which deteriorate firm performance.

Literature on Tax Avoidance

Companies, on average, pay over one-third of their pre-tax profits in tax (Chen et al. 2010). Given the significance of this tax cost to the firm, tax avoidance is possibly one way to effectively increase after-tax earnings and enhance firm value, *ceteris paribus*. However, prior studies reveal considerable variation in tax avoidance across firms. For example, Dyreng, Hanlon, and Maydew (2008) find that one-fourth of their sample firms are able to persistently maintain their tax payments below 20 percent of their pre-tax earnings over time horizons of up to ten years while another one-fourth of firms pay taxes more than 35 percent of their pre-tax earnings over periods as long as ten years.

A question that spurs tax researchers' curiosity is why some firms abandon tax avoidance opportunities whereas others engage in it enthusiastically (Shackelford and Shevlin 2001; Weisbach 2002). In response to this puzzle, a substantial body of research has been dedicated to understanding the determinants of variation in tax avoidance. However, the literature to date does not adequately explain this variation. For example, in their review of tax research, Hanlon and Heitzman (2010) point out that the literature focused on firm-level characteristics does not explain a substantial part of the variation in tax avoidance, and they call for more research on tax avoidance beyond firm-level determinants.

A recent study by Dyreng, Hanlon, and Maydew (2010) casts some light on this issue by incorporating individual managers' effect into the analysis of corporate tax avoidance. They construct a data set that tracks the movement of managers across firms over time and find that individual managers have incremental and economically

significant effects on their firms' tax avoidance beyond firm-level determinants.[5] This finding has two important implications. First, although the typical top manager is almost never a tax expert, a manager can affect corporate tax avoidance by setting the "tone at the top" with regard to the firm's tax activities.[6] Second, the net costs of tax avoidance differ across individual managers.

Managers' concern on reputational costs has often been conjectured to be a factor that partially explains why some firms abandon tax avoidance opportunities. However, there is little hard empirical evidence about managers' reputation concern on tax avoidance. To date, the studies that come closest to addressing this are Graham, Hanlon, and Shevlin (2011) and Hanlon and Slemrod (2009). In their survey of tax executives, Graham, Hanlon, and Shevlin (2011) provides initial evidence on the managers' reputation concern regarding tax avoidance. Graham, Hanlon, and Shevlin (2011) ask executives "what factors were important in your company's decision not to implement the tax planning strategy?" They find that 69.4 percent of executives agree that potential reputation damage is an "important" factor in their decision-making process (with 45.4 percent rating this "very important"). In addition, 57.6 percent of executives indicate that the risk of adverse media attention is important (with 37 percent rating this "very important").

[5] Dyreng, Hanlon, and Maydew (2010), after establishing this idiosyncratic manager effect, try to identify common characteristics that can explain the manager-specific tax avoidance. For example, they investigate whether managers' biographical information (e.g., education, functional career track, sex and age) explains the variation in their tendencies toward tax avoidance. However, they find little connection between biographic background and tax avoidance.

[6] For example, managers may determine (1) what functional areas of the firm (e.g., sales, marketing, operations, tax) to focus on, and (2) how much of the firm's resources to allocate to hiring different advisors both within and without the firm (e.g., strategy consultant, tax consultant) (Dyreng, Hanlon, and Maydew 2010). In addition, top managers may set the compensation incentives of the tax director (Crocker and Slemrod 2005; Armstrong, Blouin, and Larcker 2009).

Hanlon and Slemrod (2009) examine the stock price reaction to news about tax aggressiveness. They find that, on average, a company's stock price declines when news about tax shelter involvement is released in the press. They also find that the stock price decline is more negative for retail firms that deal directly with consumers, presumably due to a consumer/taxpayer reaction to perceptions of their being "bad" corporate citizens. These findings suggest that the reputational consequence of tax avoidance activities is a phenomenon that exists in the market.

Anecdotal evidence also suggests that managers are concerned about being perceived as "poor" citizens that do not pay the "fair share" of taxes. For example, as mentioned above, a recent controversy on General Electric's legal but aggressive tax avoidance strategies has drawn substantial public attention. Even though G.E. reported $5.1 billion in profits coming from its operations in the United States in 2010, it claimed a tax benefit of $3.2 billion. Critics say that the assertive tax avoidance of G.E. not only shortchanges the Treasury but also harms the economy by discouraging investment and hiring in the United States. In the *New York Times*, Prestowitz (2011) criticizes Jeffrey R. Immelt, the CEO of G.E., for his aggressive tax planning by pointing out that the corporation is not chartered by the shareholders, but by the state. He argues that "the state charters corporations because it believes they may provide benefits to the *society* and not just to the shareholders." Presumably in the fear of being labeled a "poor corporate citizen," G.E. immediately responded by stating (1) that the company had been one of the highest payers of corporate income taxes over the past 10 years, (2) the company's tax rate will be higher in 2011, (3) the company has contributed to society by creating more than 6,300 new U.S. manufacturing jobs since 2009, and (4) that the *New*

York Times erroneously suggested the company made use of tax loopholes or innovative accounting.[7]

Hypothesis

Managerial reputation refers to the public perception about a manager's competence, credibility, charisma, integrity, honesty, and vision (Francis et al. 2008). Wilson (1985) asserts that a player with established reputation "has an incentive to trade off the immediate consequences of his current decision against the long-term effects on his reputation." As a result, players' focus on long-term effects can affect their decision-making because they may restrain themselves from engaging in activities that potentially damage their own reputation. Therefore, in order to preserve their reputation, celebrity managers who already possess a good reputation may behave differently from non-celebrity managers who do not yet have strong reputations.

I conjecture that managers' reputation concern extends to their tax planning activities and therefore that celebrity managers may have greater reputation concern than non-celebrity managers for the following reasons. First, once a manager has an established reputation, he or she may face greater "suspicion cost." Bosch and Eckard (1991) address the possibility that investors interpret one case of aggressiveness as evidence about a manager's willingness to be aggressive towards everyone. For example, investors may interpret a firm's tax aggressiveness as evidence not only about the firm's behavior toward the IRS, but also about its aggressiveness towards the investors (Hanlon and Slemord 2009). If shareholders suspect that managers who are aggressive with the IRS are also aggressive in their other financial reporting, then the market will lose

[7] G.E. also responds by increasing their effective tax rate approximately four times in the next year from 7% to 28%.

confidence in the accuracy of the company's overall financial reporting. Since shareholders maintain higher expectations toward celebrity managers in their overall financial reporting quality[8], celebrity managers face higher suspicion cost from their aggressive tax planning.

Second, once a manager has an established reputation, the reputation damage resulting from aggressive tax planning arises more "broadly" than before. For example, in addition to illegal tax planning activities (e.g., noncompliance), tax planning activities that are legal as well as those that may fall into a gray area can potentially damage celebrity managers' reputations. Given the increased media exposure and public scrutiny, if their legal but aggressive tax planning activities are perceived as tax avoidance, celebrity managers are more subject to the reputational and political cost of being labeled as "poor citizens." Thus, once a manager has an established reputation, celebrity managers have less incentive to use their tax department as a profit center within their company. As such, celebrity managers, after receiving their first high-profile award, are expected to engage in less tax avoidance to protect their human capital in the executive labor market. Therefore, my hypothesis is as follows (stated in alternative form):

H: Celebrity managers engage in less tax avoidance after receiving their first high-profile award than prior to the award.

[8] Users of financial statements consider the external reputation of top management to be a key factor in assessing the quality of financial reporting (American Institute of Certified Public Accountants Special Committee on Financial Reporting 1994).

CHAPTER III

DATA AND REASEARCH DESIGN

Proxy for Managerial Reputation

A major challenge in the managerial reputation literature is to create an empirical proxy for managers' reputation. This difficulty arises from the multi-dimensional nature of reputation. Prior studies on the effects of managerial reputation (Rajgopal, Shevlin, and Zamora 2006; Francis et al. 2008; Baik et al. 2010) measure managerial reputation by the number of press articles containing the manager's name. However, measurement error arises because press citation is more likely to measure how "prominent" the manager is rather than how "reputed" the manager is. For example, Core, Guay, and Larcker (2008) report that more than 30% of articles on CEO compensation are in negative tone. In addition, press coverage is biased toward firms and their managers with "more egregious and interesting frauds" (Miller 2006). In this study, therefore, I use an alternative proxy that compensates for the bias in the prior studies: high-profile awards. Specifically, I exploit shifts in managers' status due to manager awards conferred by major national media organizations. Since winning high-profile awards is an external shock that explicitly enhances the visibility of a manager's public reputation at a certain point in time, this measure allows me to test the conjectures regarding the implications of managerial reputation on tax avoidance using an event study method.

In order to build a list of celebrity managers who have acquired a positive reputation from winning high-profile awards, I hand-collect data on prestigious awards given to managers from 1975 to 2007. Various publications and organizations conferred high-profile awards on managers during my sample period: *Business Week, Financial*

World, *Forbes*, *Fortune*, *Time*, and *Time/CNN*. To capture the clear shift in managerial reputation, I only consider each celebrity manager's first award. After merging this sample with available COMPUSTAT and Execucomp data, a total of 263 award winners are identified for the 1992–2007 period. I also require that the managers serve their companies for three years before and three years after winning their first award in order to ensure that any changes in tax avoidance can be attributed to the celebrity managers. After imposing these restrictions and executing a sample matching procedure, my sample consists of 168 celebrity managers.

Measuring Tax Avoidance

Following Dyreng, Hanlon, and Maydew (2010), who study the effects of individual managers on tax avoidance, I define tax avoidance broadly to encompass "anything that reduces the firm's taxes relative to its pre-tax accounting income," including tax planning activities that may or may not be considered fraudulent tax reporting. To keep my measures of tax avoidance broad and easily comprehensible, I employ the two standard measures used in Dyreng, Hanlon, and Maydew (2010). The first is cash effective tax rate, which is the firm's cash taxes paid divided by pre-tax accounting income (*CASH ETR*).[9] The second measure is the firm's effective tax rate as defined under GAAP (*GAAP ETR*), which is total tax expense (current plus deferred tax expense) divided by pre-tax accounting income. While *CASH ETR* captures managers' tax avoidance through both permanent and temporary book-tax differences, *GAAP ETR* captures permanent differences such as investments in tax havens and tax favored assets

[9] Effective tax rates with negative pre-tax income are set to missing. The remaining non-missing effective tax rates are winsorized (reset) so that the largest observation is 1 and the smallest is 0.

(Chen et al. 2010).[10] Prior research suggests that lower realization of *CASH ETR* and *GAAP ETR* represent higher levels of tax avoidance (e.g., Gupta and Newberry 1997; Rego 2003; Chen et al. 2010; Dyreng, Hanlon, and Maydew 2010).

Control Sample (Predicted Winners)

In an ideal empirical experiment, I would compare the change in tax avoidance of an award winner's firm to the same firm's change in tax avoidance had the manager not won the award (Malmendier and Tate 2009). However, since the counterfactual observation is not available, it is necessary to find an empirical proxy for the hypothetical change in tax avoidance without the reputation increase. Therefore, I construct a control sample of non-celebrity managers who are predicted to win awards. I refer to this nearest-neighbor matched sample as "predicted winners." These managers are chosen based on the similarity of their firms' economic condition and performance to those of firms managed by celebrity managers in the year of their award.

I construct the predicted winners sample in two steps. First I run a logit regression to predict manager awards based on firm characteristics.

$$WIN = \beta_1 + \beta_2 SIZE + \beta_3 MB + \beta_4 ROA + \beta_5 RET + \beta_6 RETVOL + \gamma Industry\ Effects + \delta Year\ Effects + \varepsilon \quad (1)$$

WIN is an indicator variable coded as one for the year in which the manager of the company won the award, and zero otherwise. *SIZE* is measured using the natural logarithm of total assets. *MB* is the market-to-book ratio, measured as market value of equity scaled by book value of equity. *ROA* is the return on assets, measured as income

[10] While *CASH ETR* reflects manager's tax avoidance activities that reduce tax expense for financial accounting purposes, *GAAP ETR* reflects tax avoidance activities that reduce actual cash taxes paid.

before extraordinary items scaled by lagged total assets. *RET* is the contemporaneous 12 month return less value-weighted market return. *RETVOL* is the standard deviation of the contemporaneous 12 month abnormal returns.

I include *SIZE* and market-to-book ratio (*MB*) to account for similar pre-award economic condition. Johnson, Young, and Welker (1993) find that both accounting and capital market measures of firm performance affect the likelihood of a manager to win an award. Therefore, I include *ROA* to control for accounting performance and include the contemporaneous 12 month value-weighted adjusted returns (*RET*) and the standard deviation of the returns (*RETVOL*) to control for capital market performance. I also include dummy variables for years and industries. All continuous variables are winsorized at the 1 percent and 99 percent levels. Panel A of Table 1 presents the results of the logit regression. Managers of larger firms with higher ROA and market returns are significantly more likely to win awards.

Next, I use the predicted values from the logit regression (propensity scores) to construct the predicted winners sample for the award winners. In each award year, I choose, with replacement, the non-winning managers with propensity scores closest to those of each actual award winners. Panel B of Table 1 compares the characteristics between firms managed by celebrity managers and those managed by predicted winners. The observation that there are no differences in all five variables suggests that the predicted winners sample shares similar economic conditions and firm performance to the celebrity managers sample in the year in which the manager's competence is assessed.

Tests of Hypothesis

To investigate the impact of managerial reputation on tax avoidance, I use a differences-in-differences design, which compares differences in changes of tax avoidance for the firms managed by celebrity managers to their matched control firms before and after each celebrity manager (or predicted winner) wins (or is predicted to win) their first high-profile award. Specifically, the regression equation I employ for my multivariate analysis takes the form:

$$\begin{aligned} ETR = {} & \beta_1 + \beta_2 CELEBRITY + \beta_3 POST + \beta_4 CELEBRITY*POST + \beta_5 EBITDA \\ & + \beta_6 SIZE + \beta_7 NOL + \beta_8 CNOL + \beta_9 LEV + \beta_{10} FI + \beta_{11} RD + \beta_{12} SOTB \\ & + \beta_{13} CASH + \beta_{14} ADV + \beta_{15} SGA + \beta_{16} PPE + \beta_{17} INTAN + \beta_{18} DEP \\ & + \beta_{19} EI + \gamma Year\ Effects + \varepsilon \end{aligned} \quad (2)$$

ETR is *CASH ETR* (or *GAAP ETR*, each tested in separate regressions). *CELEBRITY* is measured as an indicator variable coded as one for the celebrity managers and zero for the predicted winners. *POST* is measured as an indicator variable coded as one for the post-award period and zero for the pre-award period. *EBITDA* is earnings before interest, taxes, depreciation, and amortization scaled by lagged total assets. *SIZE* is the natural logarithm of total assets. *NOL* is an indicator variable coded as one if loss carry forward is positive as of the beginning of the year, and zero otherwise. *CNOL* is the change in loss carry forward scaled by lagged total assets. *LEV*, the leverage, is measured as long-term debt scaled by lagged total assets. *FI* is the foreign income scaled by lagged total assets; when missing, it is reset to zero. *RD* is the research and development expense scaled by lagged total assets; when missing, it is reset to zero. *SOTB* is the tax benefit of stock options scaled by lagged total assets. *CASH* is cash holing scaled by lagged total

assets. *ADV* is the advertising expense scaled by net sales; when missing, it is reset to zero. *SGA* is the selling, general, and administrative expense scaled by net sales; when missing, it is reset to zero. *PPE* is the plant, property, and equipment scaled by lagged total assets. *INTAN* is the intangible assets scaled by lagged total assets; when missing, it is reset to zero. *DEP* is the depreciation and amortization expense scaled by lagged total assets. *EI* is an indicator variable coded as one if equity income in earnings is present and does not equal zero, and zero otherwise.

If celebrity managers engage in less tax avoidance, relative to predicted winners, after receiving their first high-profile award than prior to the award, I expect a positive coefficient on the interaction of *CELEBRITY* and *POST*, β_4, when using both *CASH ETR* and *GAAP ETR* to capture tax avoidance. I expect the opposite sign if celebrity managers engage in more tax avoidance after receiving their high-profile award than prior to the award.

I control for firm characteristics that may affect tax avoidance as documented in the literature (e.g., Mills 1998; Manzon and Plesko 2002; Rego 2003; Dyreng, Hanlon, and Maydew 2008; Frank, Lynch, and Rego 2009; Chen et al. 2010; Dyreng, Hanlon, and Maydew 2010). The first set of control variables captures a firm's tax planning incentives and opportunities that are associated with economies of scale and firm complexity. Accordingly, I control for firm profitability (*EBITDA*), firm size (*SIZE*), the presence of net operating loss carry forward (*NOL*), the change in loss carry forward (*CNOL*), leverage (*LEV*), income from foreign operations (*FI*), research and development activities (*RD*), tax benefit of stock options (*SOTB*), cash holding (*CASH*), advertising activities (*ADV*), and selling, general and administrative expense (*SGA*). The second set

of control variables captures differences in financial and tax accounting treatment that can affect my tax avoidance measures. I include the firm's property, plant, and equipment assets (*PPE*), intangible assets (*INTAN*), depreciation and amortization expense (*DEP*), and equity in earnings (*EI*) in my regression. I also include dummy variables for each year of the sample period. All continuous variables are winsorized at the 1 percent and 99 percent levels, and standard errors are clustered by firm to account for serial correlation in the residuals.

CHAPTER IV

RESULTS

Descriptive Statistics

Table 2 presents the descriptive statistics of tax avoidance metrics and control variables, split into a celebrity managers sample (treatment group) and a predicted winners sample (matched control group) in the year in which the manager's competence is assessed. Table 2 also contains t-values for a test of the hypothesis that the difference between celebrity managers and predicted winners is zero. The mean *CASH ETR* for celebrity managers is 23.3 percent while the mean value for predicted winners is 24.4 percent. The celebrity managers sample has a mean *GAAP ETR* of 33.8 percent, which is slightly higher than the mean value for the predicted winners sample (32.7 percent). The observation that the differences of *CASH ETR* and *GAAP ETR* are not significantly different across two samples suggests that celebrity managers are not different than predicted winners with respect to their tax avoidance in the year in which the manager's competence is assessed. In addition, the finding that *GAAP ETR* is higher than *CASH ETR* is consistent with the findings in prior research that firms, on average, have higher pre-tax accounting income than taxable income.

Multivariate Test

I present the result of regression (2) in Table 3. The result provides evidence consistent with my hypothesis. The coefficients on the interaction of *CELEBRITY* and *POST* (*CELEBRITY *POST*) are significantly positive for both *CASH ETR* (0.027) and *GAAP ETR* (0.019). This finding implies that, relative to firms managed by predicted winners, firms managed by celebrity managers have significantly higher *CASH ETR* and

GAAP ETR in the period of three years following their first award than in the period of three years preceding the award. As such, celebrity managers engage in less tax avoidance once they have an established reputation.

In addition, given the fact that mean pre-tax income is $1.9 billion, this result suggests that firms managed by celebrity managers, on average, pay $51 million more in cash taxes and recognize $36 million more in tax expenses in the post-award period than in the pre-award period, relative to firms managed by predicted winners.

A concern with implications from the above finding is that celebrity managers may become conservative after receiving their first award because they engaged in a higher level of tax avoidance prior to the award compared to predicted winners. In other words, the finding could be simply a form of mean reversion. The coefficients on the dummy variable for the celebrity managers sample (*CELEBRITY*) address this question since these coefficients capture the differences of *CASH ETR* and *GAAP ETR* between the celebrity managers sample and the predicted winners sample in the pre-award period. Table 3 shows that β_2s are insignificant for both *CASH ETR* and *GAAP ETR*. This suggests that celebrity managers are not different than predicted winners in their tax avoidance in the pre-award period. Therefore, it is unlikely that mean reversion drives the primary finding.

Overall, the results in the multivariate test are consistent with my hypothesis that celebrity managers, in fear of being labeled as "poor citizens," engage in less tax avoidance once they have an established reputation.

CHAPTER V

SENSITIVITY ANALYSIS

Quasi-Maximum Likelihood Estimator

The dependent variables used in this study are *CASH ETR* (the fraction of pre-tax accounting income paid as cash taxes) and *GAAP ETR* (the fraction of pre-tax accounting income recognized as tax expenses). Although the prior studies on tax avoidance utilize ordinary least squares (OLS) regression to estimate the effect of covariates on effective tax rates (e.g., Dyreng, Hanlon, and Maydew 2008; Chen et al. 2010; Dyreng, Hanlon, and Maydew 2010), a potential concern with such an approach is that the nature of fractional dependent variables possibly violates several assumptions underlying the OLS estimation. First, proportional variables are not normally distributed because they are not defined over the domain of the normal distribution (Smith and Fernandez 2010). Second, due to the bounded nature of the interval, the variance can be heteroscedastic (Kieschnick and McCullough 2003). Finally, the OLS regression is likely to predict values outside the [0,1] interval because theoretically the predicted values from the OLS regression can range from negative infinity to positive infinity (Qi and Zhao 2011).

To address this issue, I introduce a quasi-maximum likelihood estimator (QMLE) based on the fractional response model proposed by Papke and Wooldridge (1996). The conditional expectation of the fractional response model can be written as follows.

$$E(y|\boldsymbol{x}) = G(\boldsymbol{x}\beta) = \frac{1}{1+exp(-\boldsymbol{x}\beta)} \quad (3)$$

G(.) is the cumulative normal distribution, which satisfies $0 < G(z) < 1$ for all $z \in \mathbb{R}$. The nonlinear estimation procedure consists of the maximization of the Bernoulli log-likelihood function (Papke and Wooldridge 1996).

$$l_i(\hat{\beta}) \equiv y_i \, log[G(\boldsymbol{x}_i\hat{\beta})] + (1 - y_i) \, log[1 - G(\boldsymbol{x}_i\hat{\beta})] \quad (4)$$

The quasi-maximum likelihood estimator of β is consistent and asymptotically normal regardless of the distribution of y_i conditional on $\mathbf{x}_i$ (Gourieroux et al 1984).

Table 4 presents the regression results of the fractional response model. The coefficients on the interaction of *CELEBRITY* and *POST* (*CELEBRITY *POST*) are significantly positive for both *CASH ETR* and *GAAP ETR*, implying that celebrity managers engage in less tax avoidance, relative to predicted winners, after receiving their first high-profile award. The finding of insignificant coefficients on the dummy variable for the celebrity managers sample (*CELEBRITY*) assures that the primary finding is not driven by the mean reversion explanation. Overall, the results in Table 4 are consistent with my hypothesis, and overall inferences are consistent with the findings presented in Chapter IV.

Pre-tax Earnings and Implicit Taxes

The results in Chapter IV show that, relative to a control group, firms managed by celebrity managers have higher *CASH ETR* and *GAAP ETR* in the post-award period. This suggests that celebrity managers engage in less tax avoidance with respect to explicit taxes (i.e., taxes paid to the taxing authorities) subsequent to the award-winning. However, a concern about using this result to make inferences about tax avoidance is that

ETR measures do not directly capture implicit taxes.[11, 12] It is possible that the increased *CASH ETR* and *GAAP ETR* may result from celebrity managers' change in their investment portfolio. For example, subsequent to the award-winning, celebrity managers may invest more on tax-disfavored assets and less on tax-favored assets, thereby bearing less implicit taxes; this may lead to an increase in pre-tax rates of return. Therefore, I investigate whether firms managed by celebrity managers experience an increase in their pre-tax rates of return after receiving their first high-profile award than prior to the award. Specifically, I estimate the following regression:

$$BTROA = \beta_1 + \beta_2 CELEBRITY + \beta_3 POST + \beta_4 CELEBRITY*POST + \beta_5 SIZE + \beta_6 GROWTH + \beta_7 LEV + \gamma Industry\ Effects + \delta Year\ Effects + \varepsilon \quad (5)$$

BTROA, the pre-tax rate of return on assets, is measured as pre-tax earnings scaled by lagged total assets. *SIZE* is the natural logarithm of total assets. *GROWTH*, the growth opportunity, is measured as the ratio of research and development expenses to lagged total assets. *LEV*, the leverage, is measured as long-term debt scaled by lagged total assets. I include dummy variables for two-digit SIC codes and for each year of the sample period. All continuous variables are winsorized at the 1 percent and 99 percent levels, and standard errors are clustered by firm to account for serial correlation in the residuals.

[11] Scholes and Wolfson (1992) use the term 'implicit taxes' to describe the phenomenon where tax-favored assets bear lower pre-tax returns than tax-disfavored assets. It is said that an investment in a tax-favored asset bears implicit taxes when the pre-tax returns are lower than the returns on a fully-taxed asset of identical risk (e.g., municipal bond investments).

[12] ETR measures indirectly capture implicit taxes. When the denominator of ETR (i.e., pre-tax accounting income) is lower for a given amount of tax, ETR is higher.

To the extent a higher pre-tax rate of return on assets signals decreased implicit tax costs, a positive coefficient on *CELEBRITY*POST* suggests that celebrity managers bear less implicit taxes, relative to predicted winners, subsequent to the award-winning. Alternatively, an insignificant coefficient suggests that there is no difference in the level of implicit taxes for firms managed by celebrity managers than for the control group following the award-winning.

I present the result of regression (5) in Table 5. The coefficient on *CELEBRITY *POST* is insignificant, implying that firms managed by celebrity managers experience no significant change in their pre-tax rate of return once their managers win a high-profile award.

All Awards

As discussed in Chapter III, I only include each celebrity manager's first award in my sample, assuming the first award captures clearer shifts in managerial reputation. However, it is also reasonable to assume that any winning of an award subsequent to the first one has an incremental reputational effect. Therefore, in this section I examine the managerial reputation effect on tax avoidance with a broader sample that includes all high-profile awards. This release of restriction to the sample results in 278 awards.[13] I construct a matched control group for this broader treatment group using the method described in Chapter III.

Panel A of Table 6 provides the regression results of the OLS model, and Panel B of Table 6 presents the results of the fractional response model. Across all four specifications, the coefficients on the interaction of *CELEBRITY* and *POST* (*CELEBRITY*

[13] I still require that the celebrity managers serve the company for three years before and three years after winning their high-profile award in order to ensure that any changes in tax avoidance can be attributed to the celebrity managers.

**POST*) are positive and significant. This finding again provides support that celebrity managers become conservative in their tax planning activities after receiving high-profile awards.

Overall, the results in this chapter suggest that the inferences drawn from the previous chapter are not subject to the misspecification issue and that the results are not sensitive to the inclusion of subsequent award-winnings for each celebrity manager.

CHAPTER VI

CONCLUSION

The objective of this study is to investigate the impact of managerial reputation on corporate tax avoidance. As managerial reputation is difficult to measure due to its multi-dimensional nature, I exploit the event of managers winning high-profile awards to proxy for managerial reputation. Using a sample of 168 celebrity managers who win a high-profile award, I analyze the changes in the level of tax avoidance before and after each celebrity manager wins their first high-profile award. The results show that celebrity managers engage in less tax avoidance after receiving their first award.

While this study provides evidence consistent with that managerial reputation plays a role in corporate tax avoidance, it has limitations. Since this study focuses on the increase in reputation around a specific level (i.e., the shift in reputation captured by winning awards), the result may be difficult to generalize to a continuum of reputation that lies outside of this level. In addition, while I only consider prestigious high-profile awards in compiling my sample, different kinds of awards may shift the managers' status and reputation to different extents. In other words, given the heterogeneity of manager awards, reputation effect may vary among the awards.

With this caveat in mind, my paper contributes to the literature in the following ways. First, this study contributes to literature on tax avoidance by explicitly considering a managerial human capital dimension (i.e., reputation) in explaining corporate tax avoidance. Second, this study contributes to the literature on the reputation effect of business stakeholders. While prior research illuminates a bright side of the reputation effect, my results show that celebrity managers act in opportunistic ways possibly

detrimental to shareholder value in order to preserve their own reputation during their tax planning.

APPENDIX A

VARIABLE DEFINITIONS

Effect of Managerial Reputation on Tax Avoidance (Table 2,3,4 and 6)

Variable	Description
CASH ETR	The cash effective tax rate, defined as cash tax paid divided by pre-tax book income
GAAP ETR	The financial accounting tax rate, defined as total tax expenses divided by pre-tax book income
CELEBRITY	Indicator variable coded as one for the celebrity managers and zero for the predicted winners
POST	Indicator variable coded as one for the post-award period and zero for the pre-award period
EBITDA	Earnings before interest, taxes, depreciation, and amortization scaled by lagged total assets
SIZE	Natural logarithm of total assets
NOL	Indicator variable coded as one if loss carry forward is positive as of the beginning of the year, and zero otherwise
CNOL	Change in loss carry forward scaled by lagged total assets
LEV	Long-term debt scaled by lagged total assets
FI	Foreign income scaled by lagged total assets; when missing, it is reset to zero
RD	Research and development expense scaled by lagged total assets; when missing, it is reset to zero
SOTB	Tax benefit of stock options scaled by lagged total assets
CASH	Cash holing scaled by lagged total assets
ADV	Advertising expense scaled by net sales; when missing, it is reset to zero
SGA	Selling, general, and administrative expense scaled by net sales; when missing, it is reset to zero
PPE	Plant, property, and equipment scaled by lagged total assets
INTAN	Intangible assets scaled by lagged total assets; when missing, it is reset to zero
DEP	Depreciation and amortization expense scaled by lagged total assets
EI	Indicator variable coded as one if equity income in earnings is present and does not equal zero, and zero otherwise

Construction of Predicted Winners (Table 1)

Variable	Description
WIN	Indicator variable coded as one for the year in which the manager of the company won the award and zero otherwise
SIZE	Natural logarithm of total assets
MB	Market-to-book ratio, measured as market value of equity scaled by book value of equity
ROA	Return on assets, measured as income before extraordinary items scaled by lagged total assets
RET	Contemporaneous 12 month return less value-weighted market return
RETVOL	Standard deviation of the contemporaneous 12 month abnormal returns

Effect of Managerial Reputation on Pre-tax Earnings (Table 5)

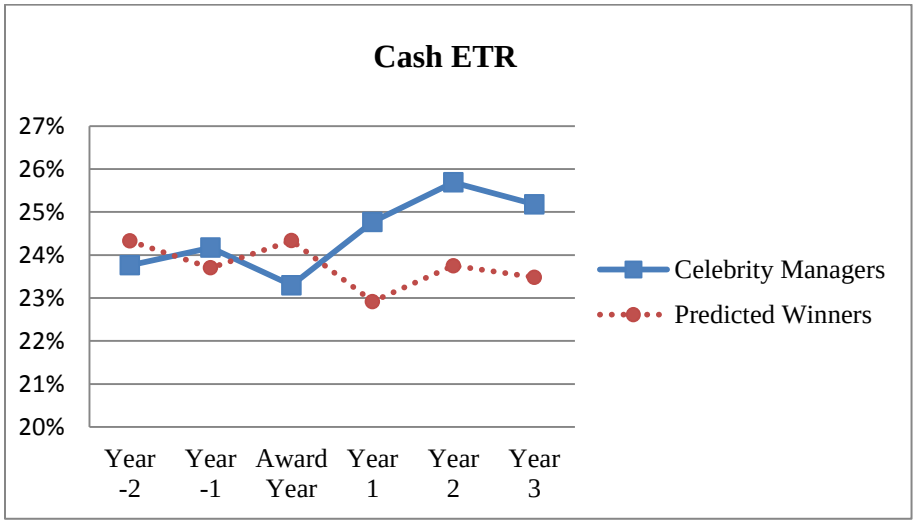
Variable	Description
BTROA	Pre-tax earnings scaled by lagged total assets
CELEBRITY	Indicator variable coded as one for the celebrity managers and zero for the predicted winners
POST	Indicator variable coded as one for the post-award period and zero for the pre-award period
SIZE	Natural logarithm of total assets
GROWTH	Research and development expenses scaled by lagged total assets
LEV	Long-term debt scaled by lagged total assets

APPENDIX B

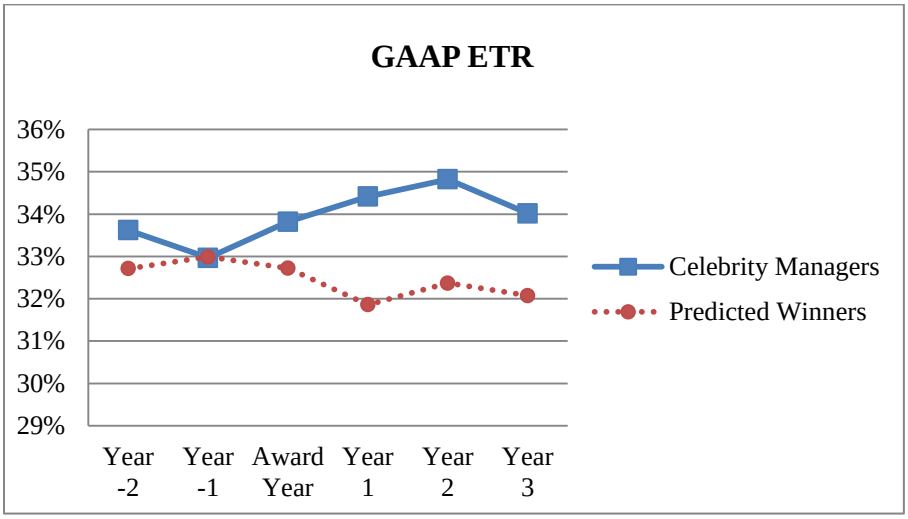
FIGURE

Figure 1. Effective Tax Rates Before and After an Award-Winning

Panel A: *Cash ETR*



Panel B: *GAAP ETR*



This figure plots the effective tax rates for firms managed by celebrity managers and firms managed by predicted winners in event time aroud an award-winning. Panel A presents the ***CASH ETR***, defined as cash tax paid divided by pre-tax book income. Panel B presents the ***GAAP ETR***, defined as total tax expenses divided by pre-tax book income. Award year is the year in which the manager's competence is assessed.

APPENDIX C

TABLES

Table 1. Matched Control Sample (Predicted Winners)

Panel A: *Predictiong Determinants of Award Winners*

$$WIN = \beta_1 + \beta_2 SIZE + \beta_3 MB + \beta_4 ROA + \beta_5 RET + \beta_6 RETVOL + \gamma Industry\ Effects + \delta Year\ Effects + \varepsilon$$

Variable	Coefficients	χ^2-stat
SIZE	0.792***	289.165
MB	0.088***	49.083
ROA	3.268***	25.100
RET	1.668***	40.598
RETVOL	-0.850	0.247
Industry Dummies	YES	
Year Dummies	YES	
Observations	129,684	
Pseudo R^2	0.292	

Panel B: *Differences between Celebrity Managers and Predicted Winners*

Variable	Celebrity Managers	Predicted Winners	Difference	(t-stat)
SIZE	8.877	8.911	0.034	0.85
MB	4.761	5.300	0.538	0.49
ROA	0.119	0.114	-0.005	-0.77
RET	0.169	0.171	0.003	0.07
RETVOL	0.090	0.091	0.002	0.25

WIN is an indicator variable coded as one for the year in which the manager of the company won the award, and zero otherwise. All other variables are as defined in Appendix A. Year and industry dummies are included in the specification. * denotes significance at 10% level, ** denotes significance at 5% level, and *** denotes significance at 1%.

Table 2. Summary Statistics

(Number of firm-year observations = 168)

	Celebrity Managers		Predicted Winners		Differences in Means	
	Mean	Std. dev.	Mean	Std. dev.	Difference	t-stat
EBITDA	0.183	0.117	0.183	0.126	0.000	0.02
SIZE	8.877	1.765	8.911	1.922	0.034	0.85
NOL	0.144	0.352	0.185	0.389	0.041	1.01
CNOL	0.011	0.120	0.000	0.031	-0.012	-1.21
LEV	0.214	0.293	0.253	0.292	0.040	1.23
FI	0.019	0.046	0.021	0.046	0.002	0.43
RD	0.038	0.070	0.027	0.050	-0.010	-1.58
SOTB	0.000	0.000	0.000	0.000	0.000	-0.22
CASH	0.202	0.350	0.119	0.173	-0.083	-2.73***
ADV	0.015	0.031	0.016	0.041	0.001	0.17
SGA	0.187	0.172	0.174	0.158	-0.013	-0.70
PPE	0.344	0.303	0.377	0.312	0.033	0.98
INTAN	0.088	0.169	0.189	1.233	0.102	1.06
DEP	0.049	0.044	0.054	0.071	0.005	0.75
EI	0.345	0.477	0.375	0.486	0.030	0.57
CASH ETR	0.233	0.174	0.244	0.186	0.011	0.57
GAAP ETR	0.338	0.078	0.327	0.120	-0.011	-0.98

This table presents the descriptive statistics of tax avoidance metrics and control variables, split into a celebrity managers sample (treatment group) and a predicted winners sample (matched control group) in the year in which the manager's competence is assessed. ***CASH ETR*** is cash taxes paid divided by pre-tax accounting income. ***GAAP ETR*** is total tax expense divided by pre-tax accounting income. Effective tax rates with negative pre-tax income are set to missing. The remaining non-missing effective tax rates are winsorized (reset) so that the largest observation is 1 and the smallest is 0. All other variables are as defined in Appendix A. * denotes significance at 10% level, ** denotes significance at 5% level, and *** denotes significance at 1%.

Table 3. First Awards (OLS Model)

	Dependent variables			
	CASH ETR		GAAP ETR	
CELEBRITY	-0.008	(-0.65)	0.003	(0.29)
POST	0.000	(0.00)	0.003	(0.34)
CELEBRITY*POST	**0.027**	**(2.05)****	**0.019**	**(1.78)***
EBITDA	0.029	(0.69)	0.074	(1.26)
SIZE	0.000	(0.00)	0.003	(0.91)
NOL	0.006	(0.65)	0.005	(0.55)
CNOL	-0.053	(-0.83)	0.059	(0.33)
LEV	0.036	(1.37)	0.004	(0.15)
FI	0.177	(1.90)*	-0.162	(-1.78)*
RD	0.048	(0.62)	-0.110	(-0.83)
SOTB	-0.208	(-0.56)	0.043	(0.86)
CASH	-0.005	(-0.73)	0.018	(1.57)
ADV	-0.108	(-0.83)	0.129	(0.99)
SGA	0.018	(0.98)	-0.012	(-0.25)
PPE	-0.018	(-0.74)	-0.034	(-1.40)
INTAN	0.003	(0.22)	0.031	(1.16)
DEP	0.052	(0.28)	0.095	(0.43)
EI	0.020	(1.75)*	-0.008	(-0.71)
Year Dummies	YES		YES	
Observations	1,726		1,726	
Adj. R^2	0.055		0.057	

This table presents the results of estimating an OLS model. ***CASH ETR*** is cash taxes paid divided by pre-tax accounting income. ***GAAP ETR*** is total tax expense divided by pre-tax accounting income. ***CELEBRITY*** is an indicator variable coded as one for the celebrity managers and zero for the predicted winners. ***POST*** is an indicator variable coded as one for the post-award period and zero for the pre-award period. All other variables are as defined in Appendix A. Year dummies are included in the specification. Coefficients are presented with t-statistics based on firm clustered standard errors in parenthesis. * denotes significance at 10% level, ** denotes significance at 5% level, and *** denotes significance at 1%, all for two-tailed tests.

Table 4. First Awards (Fractional Response Model)

	Dependent variables			
	CASH ETR		GAAP ETR	
CELEBRITY	-0.046	(-0.66)	0.013	(0.30)
POST	0.001	(0.01)	0.013	(0.34)
CELEBRITY*POST	**0.148**	**(2.05)****	**0.084**	**(1.81)***
EBITDA	0.167	(0.72)	0.328	(1.28)
SIZE	0.000	(-0.01)	0.012	(0.92)
NOL	0.032	(0.66)	0.022	(0.55)
CNOL	-0.270	(-0.80)	0.260	(0.33)
LEV	0.194	(1.43)	0.014	(0.12)
FI	0.953	(1.91)*	-0.729	(-1.80)*
RD	0.268	(0.64)	-0.490	(-0.84)
SOTB	-1.202	(-0.59)	0.208	(0.91)
CASH	-0.031	(-0.81)	0.075	(1.59)
ADV	-0.565	(-0.80)	0.569	(1.00)
SGA	0.091	(1.04)	-0.053	(-0.25)
PPE	-0.099	(-0.76)	-0.153	(-1.42)
INTAN	0.009	(0.13)	0.141	(1.20)
DEP	0.264	(0.26)	0.437	(0.45)
EI	0.111	(1.80)*	-0.038	(-0.73)
Year Dummies	YES		YES	
Observations	1,726		1,726	

This table presents the results of estimating a fractional response model. ***CASH ETR*** is cash taxes paid divided by pre-tax accounting income. ***GAAP ETR*** is total tax expense divided by pre-tax accounting income. ***CELEBRITY*** is an indicator variable coded as one for the celebrity managers and zero for the predicted winners. ***POST*** is an indicator variable coded as one for the post-award period and zero for the pre-award period. All other variables are as defined in Appendix A. Year dummies are included in the specification. Coefficients are presented with Z-statistics based on firm clustered standard errors in parenthesis. * denotes significance at 10% level, ** denotes significance at 5% level, and *** denotes significance at 1%, all for two-tailed tests.

Table 5. Pre-tax Earnings and Implicit Taxes

Variable	Coefficients	t-stat
CELEBRITY	-0.003	-0.55
POST	0.005	0.45
CELEBRITY*POST	**0.000**	**0.00**
SIZE	-0.015***	-4.18
GROWTH	0.146***	8.42
LEV	-0.241***	-7.40
Industry Dummies	YES	
Year Dummies	YES	
N	1,967	
Adj. R^2	0.240	

BTROA, the pre-tax rate of return on assets, is as pre-tax earnings scaled by lagged total assets. ***CELEBRITY*** is an indicator variable coded as one for the celebrity managers and zero for the predicted winners. ***POST*** is an indicator variable coded as one for the post-award period and zero for the pre-award period. ***SIZE*** is the natural logarithm of total assets. ***GROWTH***, the growth opportunity, is measured as the ratio of research and development expenses to lagged total assets. ***LEV***, the leverage, is measured as long-term debt scaled by lagged total assets. Year and industry dummies are included in the specification. Coefficients are presented with t-statistics based on firm clustered standard errors in parenthesis. * denotes significance at 10% level, ** denotes significance at 5% level, and *** denotes significance at 1%, all for two-tailed tests.

Table 6. All Awards

Panel A: *OLS Model*

	Dependent variables			
	CASH ETR		GAAP ETR	
CELEBRITY	0.009	(0.79)	0.006	(0.80)
POST	-0.002	(-0.16)	-0.002	(-0.26)
CELEBRITY*POST	**0.020**	**(1.96)***	**0.011**	**(1.99)****
EBITDA	0.016	(0.34)	0.022	(0.71)
SIZE	0.003	(0.93)	0.003	(1.02)
NOL	-0.003	(-0.42)	-0.010	(-1.75)*
CNOL	-0.026	(-1.13)	-0.030	(-1.15)
LEV	-0.008	(-0.48)	0.000	(-0.01)
FI	0.119	(1.44)	-0.064	(-1.16)
RD	0.146	(1.83)*	0.035	(0.58)
SOTB	-0.111	(-2.01)**	0.014	(0.05)
CASH	-0.012	(-1.26)	-0.003	(-0.76)
ADV	0.113	(0.66)	0.106	(1.72)*
SGA	-0.019	(-0.83)	-0.004	(-0.34)
PPE	0.026	(1.21)	-0.001	(-0.07)
INTAN	0.036	(1.33)	0.001	(0.05)
DEP	0.116	(0.66)	0.009	(0.08)
EI	-0.005	(-0.52)	0.001	(0.09)
Year Dummies	YES		YES	
Observations	2,940		2,940	
Adj. R^2	0.044		0.033	

This table presents the results of estimating an OLS model. ***CASH ETR*** is cash taxes paid divided by pre-tax accounting income. ***GAAP ETR*** is total tax expense divided by pre-tax accounting income. All other variables are as defined in Appendix A. Year dummies are included in the specification. Coefficients are presented with t-statistics based on firm clustered standard errors in parenthesis. * denotes significance at 10% level, ** denotes significance at 5% level, and *** denotes significance at 1%, all for two-tailed tests.

Table 6 (Continued)

Panel B: *Fractional Response Model*

	Dependent variables			
	CASH ETR		GAAP ETR	
CELEBRITY	0.053	(0.78)	0.026	(0.81)
POST	-0.010	(-0.15)	-0.007	(-0.27)
CELEBRITY*POST	**0.110**	**(1.86)***	**0.049**	**(1.99)****
EBITDA	0.096	(0.35)	0.098	(0.71)
SIZE	0.018	(0.91)	0.013	(1.03)
NOL	-0.020	(-0.43)	-0.045	(-1.76)*
CNOL	-0.159	(-1.08)	-0.141	(-1.10)
LEV	-0.045	(-0.43)	-0.001	(-0.02)
FI	0.676	(1.48)	-0.291	(-1.17)
RD	0.811	(1.90)*	0.154	(0.59)
SOTB	-0.637	(-1.97)**	0.092	(0.08)
CASH	-0.066	(-1.22)	-0.015	(-0.76)
ADV	0.660	(0.68)	0.479	(1.74)*
SGA	-0.118	(-0.70)	-0.016	(-0.33)
PPE	0.146	(1.20)	-0.003	(-0.07)
INTAN	0.194	(1.37)	0.003	(0.06)
DEP	0.664	(0.69)	0.044	(0.08)
EI	-0.029	(-0.48)	0.003	(0.09)
Year Dummies	YES		YES	
Observations	2,940		2,940	

This table presents the results of estimating a fractional response model. ***CASH ETR*** is cash taxes paid divided by pre-tax accounting income. ***GAAP ETR*** is total tax expense divided by pre-tax accounting income. All other variables are as defined in Appendix A. Year dummies are included in the specification. Coefficients are presented with Z-statistics based on firm clustered standard errors in parenthesis. * denotes significance at 10% level, ** denotes significance at 5% level and *** denotes significance at 1%, all for two-tailed tests.

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