



TAX AVOIDANCE, FINANCIAL EXPERTS ON THE AUDIT COMMITTEE, AND BUSINESS STRATEGY

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Abstract

We examine whether financial expert audit committee members tailor their approach to overseeing the corporate tax planning process according to the firm's business strategy. We predict and find that such directors encourage defender-type firms (characterized partially by high risk aversion) to engage in more tax avoidance activities and prospector-type firms (characterized partially by innovation and risk seeking) to scale back on tax avoidance, relative to the opposing strategy type. We also find that both accounting experts and non-accounting financial experts on the audit committee contribute to our results to some extent, although the effects of non-accounting financial experts present more consistently. Overall, our results suggest that financial experts on the audit committee tend to play more of an advising role for defenders and more of a monitoring role for prospectors, relative to one another.

Keywords: Tax avoidance, tax aggressiveness, financial experts, board of directors, audit committee, business strategy

JEL Classifications: H25, H26, M41, G3, L19, L21

1. INTRODUCTION

This study investigates whether the advising and monitoring roles of the board of directors (Adams and Ferreira 2007) vary with a firm's business strategy in the context of tax avoidance. Specifically, we examine how financial expertise on the audit committee and the firm's strategy type (Higgins et al. 2015; Miles et al. 1978) interact to influence the firm's tax planning activities. Audit committees have come to play an increasingly vital role in firms' tax planning and tax risk management processes (Deloitte 2014; Deloitte 2013; Richardson

et al. 2013; Deloitte 2011). The importance of financial expertise on the audit committee has also increased as the scope of the audit committee's oversight has evolved to include areas such as tax issues, information technology, and globalization, each carrying their own complexities and risks (KPMG 2017; KPMG 2015; KPMG 2012).

In a prior study, Robinson et al. (2012) examine the impact on tax avoidance of financial expertise on the audit committee generally, finding a positive association between financial expertise and *levels* of tax avoidance (consistent with directors' advising role) but a negative association between financial expertise and the use of *risky* tax planning strategies (consistent with directors' monitoring role). What is not revealed from these findings, however, is the extent to which board, specifically audit committee, members vary their application of these roles based on contextual factors or conditions, such as the strategic profile of the firm. We explore this question, thereby helping to provide a richer understanding of how board members approach oversight of the corporate tax planning process.

Prior studies argue that there is an optimal level of tax avoidance for each firm that maximizes firm value (Armstrong et al. 2015; Chen et al. 2010; Slemrod 2004). Recent empirical evidence by Cook et al. (2017) supports this argument; they find that firms' *ex ante* cost of capital increases with the degree to which their level of tax avoidance deviates from investor expectations *in either direction*. From an agency theory perspective, in the absence of sufficiently strong incentive alignment and/or monitoring, managers may choose to engage in more or less tax avoidance than would maximize shareholder value (e.g., Rego and Wilson 2012; Desai and Dharmapala 2006). While Fama and Jensen (1983) emphasize

the general importance of the board of directors as a monitoring body, Adams and Ferreira (2007) characterize the board as serving *dual* roles as both monitors of and advisors to management, providing expert council to managers for optimal decision-making while also constraining managers' actions to the extent that they do not benefit shareholders.

The mixed extant evidence linking tax avoidance with board characteristics is indicative of the presence of both roles in the corporate tax planning process. For example, in the context of noncompliant tax avoidance, Lanis and Richardson (2011) and Richardson et al. (2013) find that a higher proportion of independent directors on the board is negatively associated with tax aggressiveness, consistent with the monitoring role.¹ However, Minnick and Noga (2010) find no relation between board independence and either GAAP or cash effective tax rates (ETRs) but a negative association between director pay-performance-sensitivity and GAAP ETRs, more reflective of the advising role at some level. More recently, Armstrong et al. (2015) find that more independent and more sophisticated boards appear to encourage more (less) aggressive tax positions for firms at the lower (upper) extreme of the tax avoidance continuum, consistent with both roles.

As noted previously, Robinson et al. (2012) also find evidence highlighting both the advising and monitoring roles of board members in influencing firms' tax avoidance, specifically those on the audit committee with accounting-specific financial expertise. Their evidence that financial expertise on the audit committee is important to the tax planning process is consistent with the increased role of the audit committee in managing tax risk

¹ Richardson et al. (2013) also find the same association using the proportion of independent directors on the audit committee.

(e.g., Deloitte 2014; Deloitte 2013; Richardson et al. 2013; Deloitte 2011) and the growing importance of financial expertise on the part of audit committee members due to risks associated with emerging areas of audit committee oversight (e.g., tax issues, information technology, and globalization). Given the complexity surrounding tax issues, audit committee members with financial expertise are indeed in a unique position to monitor and advise executives' decisions concerning their firms' tax planning activities and the related risks. Similar to Robinson et al. (2012), our analyses explore how audit committee members, specifically financial experts, fulfill their dual advisory and monitoring roles with respect to tax planning.² However, our study differs from theirs in that we investigate how a firm's business strategy conditions financial expert audit committee members to tailor how they deliver on these roles.

Miles et al. (1978) develop a typology of four business strategy types, namely defenders, analyzers, prospectors, and reactors, each with different approaches to competing in the marketplace and propensities toward innovation and risk-taking. Higgins et al. (2015) examine the association between tax avoidance and firm strategy type, finding that (more risk seeking) prospectors engage in more tax avoidance and do so in more risky and uncertain ways than (more risk averse) defenders. These findings suggest (as expected) that the different characteristics of each strategy type, such as strategic focus, risk tolerance, and

² We follow the final definition adopted by the SEC, under which an audit committee member can be deemed a financial expert if the member has: (a) accounting expertise from work experience as a certified public accountant, auditor, CFO, financial comptroller, financial controller, or accounting officer; (b) finance expertise from work experience as an investment banker, financial analyst, or any other financial management role; or (c) supervisory expertise from supervising the preparation of financial statements (e.g., CEO or company president).

organizational structure, influence the manner in which managers weigh the costs and benefits of tax planning.

The board of directors, of which the audit committee is a subset, plays a key role in establishing and maintaining the business strategy of the firm and the general premise of managerial decision making (Baysinger and Hoskisson 1990; Mizruchi 1983). The board accomplishes this partially through the implementation of decision control systems chosen based on the business-level strategy of the firm (Baysinger and Hoskisson 1990) and through domain-specific advising, monitoring, and evaluation of managers' decisions at the committee level (Zahra and Pearce 1989; Jemison and Oakley 1983). Within the committee structure, board members integrate their own skills and expertise with their understanding of the operations and strategies of the firm and apply their expertise in evaluating executives or making recommendations about firm-specific issues within the domain of the committee (Forbes and Milliken 1999; Zahra and Pearce 1989). Thus, we expect that financial expert audit committee members integrate their skills and expertise with their awareness of the firm's business strategy in performing their monitoring and advising roles on issues subject to audit committee oversight, including tax planning. Accordingly, our general hypothesis is that financial experts on the audit committee are likely to act in more of an advising capacity in the tax planning process for defenders and in more of a monitoring capacity in the tax planning process for prospectors.

Following Higgins et al. (2015), we partition our sample into defender, analyzer, and prospector strategy types based on the business strategy score from Bentley et al. (2013), focusing primarily on defenders and prospectors (the opposite ends of the strategy

continuum). We then examine whether the association between the proportion of independent financial experts on the audit committee and tax avoidance differs across strategy types, using multiple measures of tax avoidance to capture both tax planning broadly and the use of more risky tax avoidance tactics.³ We find that financial expertise on the audit committee is positively associated with tax avoidance activity for defender-type firms in some cases (e.g., cash effective tax rates) and that the association between financial expertise on the audit committee and tax avoidance is consistently significantly more (and generally *net*) negative for prospector-type firms relative to defender-type firms.

Additionally, we differentiate between accounting and non-accounting financial expertise and find that both play a role in the tax planning process. Finally, while the effects of non-accounting financial experts appear more prevalently across our tax avoidance measures, they do not dominate those of accounting financial experts when compared directly.

Overall, our results suggest that financial experts on the audit committee generally play more of an advising role (i.e., more encouraging of tax avoidance) for defender-type firms and more of a monitoring role (i.e., more discouraging of tax avoidance) for prospector-type firms, relative to each other, consistent with our hypothesis. These findings imply not only that financial experts on the audit committee play both advising and monitoring roles in a firm's tax planning process (Robinson et al. 2012), but also that they apply these roles *in the context of the firm's business strategy*. Further, the results suggest that both accounting

³ We use cash effective tax rates to represent tax avoidance broadly and unrecognized tax benefits to represent risky tax planning. We also include total and permanent book-tax differences because they contain information about both the broader impact of tax avoidance on income tax expense and more aggressive tax avoidance.

and non-accounting financial expert audit committee members influence tax planning to some extent, consistent with prior studies which document that both types of financial expertise benefit the financial reporting process (Zhang et al. 2007; Dhaliwal et al. 2010).

Our study contributes to the literature in several ways. We add to the literature investigating the determinants of tax avoidance in an agency theory context (Hanlon and Heitzman 2010), particularly the branch focusing on corporate governance mechanisms. Prior studies link tax avoidance with board characteristics (e.g., Armstrong et al. 2015; Richardson et al. 2013; Robinson et al. 2012; Lanis and Richardson 2011; Minnick and Noga 2010), collectively (and in some cases, individually) highlighting the dual roles of board members as advisors to and monitors of management. Our study builds on these findings as we show that financial expert audit committee members alter the manner in which they perform their advisory and monitoring roles with respect to tax planning according to the firm's business strategy.

We also contribute to the organizational theory literature examining firm strategy. The extant evidence suggests that the different characteristics of firms of the various strategy types influence firms' operational approaches and tolerance for risk and uncertainty, thus impacting operational decisions, including tax avoidance (Higgins et al. 2015). We extend Higgins et al. (2015) by documenting that certain corporate governance mechanisms influence managerial decision making differentially across business strategy types.

Finally, we add to the literature examining the impact of board attributes, including financial expertise, on firms' operational and reporting outcomes. Results from previous studies indicate that board characteristics influence performance around corporate

activities associated with agency issues, such as mergers and acquisitions, earnings management, and tax avoidance (e.g., Byrd and Hickman 1992; Xie et al. 2003; Klein 2002; Minnick and Noga 2010; Lanis and Richardson 2011). Prior evidence further suggests that financial expert board members play a significant monitoring role over and above that of non-financial expert board members (e.g., Robinson et al. 2012; Dhaliwal et al. 2010; Krishnan and Visvanathan 2008; Zhang et al. 2007; Farber 2005). Our results imply that financial expert board (i.e., audit committee) members vary the manner in which they carry out their oversight duties based on high-level firm traits, such as business strategy. An implication of our findings is that future studies examining the impact of board characteristics on firm behavior may benefit from considering the influence of business strategy in their analyses.

Section 2 provides a review of the prior literature and the development of our hypothesis. Section 3 discusses our research methods and data used to test how business strategy impacts the relation between financial expertise on the audit committee and tax avoidance. Section 4 presents the results of our analyses, and Section 5 presents our concluding remarks.

2. BACKGROUND AND HYPOTHESIS DEVELOPMENT

2.1 Tax Avoidance and the Audit Committee

Slemrod (2004) argues that an optimal level of tax planning/avoidance exists for every firm that balances resulting benefits and costs in such a way as to maximize shareholder value. Cook et al. (2017) provide empirical evidence along this line by showing a positive association between the deviation of a firm's tax avoidance level from investor expectations (in either direction) and the firm's *ex ante* cost of capital. Relatively little is known about what drives a firm's optimal level of tax avoidance or why firms differ in how aggressively they approach tax planning and reporting (Hanlon and Heitzman 2010; Slemrod 2004).

While much of the existing literature focuses firm-level characteristics associated with tax avoidance, several recent studies examine tax avoidance/aggressiveness in an agency context using data from various countries around the world, with some exploring the role of various corporate governance dimensions as determinants. Recent work, for example, links tax avoidance (directly or indirectly) with executive compensation (e.g., Rego and Wilson 2012; Minnick and Noga 2010; Desai and Dharmapala 2006; Phillips 2003), institutional ownership (e.g., Khurana and Moser 2013; Chen et al. 2010; Desai and Dharmapala 2006), family firm status (e.g., Moore et al. 2017; Steijvers and Niskanen 2014; Chen et al. 2010), and governance-related corporate social responsibility traits (e.g., Huseynov and Klamm 2012).

A component of corporate governance that has received less attention in the tax avoidance literature is the board of directors. From an agency theory perspective, boards of

directors play a critical role by establishing and maintaining the business strategy of the firm, selecting and compensating executives, and monitoring executives' decisions to ensure shareholder maximization (Baysinger and Hoskisson 1990; Fama and Jensen 1983).

Empirical studies to date have focused on board monitoring as a means of mitigating agency issues. For example, several papers link board characteristics with performance around specific corporate activities in which agency conflicts are most likely to occur, such as mergers and acquisitions (Byrd and Hickman 1992), CEO replacement (Weisbach 1988), takeover bids (Cotter et al. 1997), and earnings management (e.g., Xie et al. 2003; Klein 2002). Adams and Ferreira (2007) further expand our view of boards of directors by highlighting that they serve *dual* roles as both monitors of and advisors to management, providing expert consultation to help push managers toward optimal outcomes while also constraining managers' actions to the extent that they do not benefit shareholders.

Tax planning provides an interesting setting in which to study boards of directors in the context of Slemrod (2004) and Cook et al. (2017) since, left to their own devices, managers may opt to engage in more or less tax avoidance than would otherwise be optimal from the perspective of shareholders. On the one hand, risk-averse managers may avoid tax avoidance activities that involve significant uncertainty, even if the activities are expected to generate net benefits for shareholders (Rego and Wilson 2012). On the other hand, managers may engage in complex and risky tax avoidance activities, possibly as a means of facilitating and/or hiding extraction of private benefits (Desai and Dharmapala 2006).

Accordingly, to the extent that the board of directors plays a role in tax planning/avoidance, it is an empirical question whether the monitoring or advising role dominates on average.

The extant empirical evidence on this question is mixed. In the context of noncompliant tax avoidance among Australian firms, Lanis and Richardson (2011) and Richardson et al. (2013) find that a higher proportion of independent directors on the board is negatively associated with tax aggressiveness, consistent with the monitoring role. Similarly, using a sample of Finnish firms, Steijvers and Niskanen (2014) find that the presence of outside directors on the board limits tax aggressiveness on the part of non-family CEOs in private family firms. On the other hand, Moore et al. (2017) find a *positive* association between board independence and tax avoidance using a sample of U.S. firms, while Chan et al. (2013) and Minnick and Noga (2010) find no association at all in Chinese and U.S. settings, respectively. Chan et al. (2013) provide additional evidence consistent with the advising role with their finding of a positive relation between tax avoidance and the percentage of shares held by board members. Minnick and Noga (2010) also provide some evidence of the advising role by documenting a negative relation between director pay-performance-sensitivity and GAAP ETRs. Armstrong et al. (2015) find evidence consistent with both roles; more independent and more sophisticated boards appear to encourage more (less) aggressive tax positions for firms at the lower (upper) extreme of the tax avoidance continuum.

We examine how directors, specifically independent financial experts, on the audit committee fulfill their monitoring and advising roles with respect to a firm's tax avoidance activities.⁴ Regulators emphasize the importance of financial expertise on the audit committee in the context of financial reporting (e.g., Blue Ribbon Committee on Improving

⁴ As noted in footnote 2, we follow the final definition of "financial expert" adopted by the SEC.

the Effectiveness of Corporate Audit Committees 1999; Public Oversight Board 1993; Sarbanes-Oxley Act of 2002 (SOX) 2002),⁵ and several recent studies associate financial expertise on the audit committee with financial reporting outcomes such as accruals quality, conservatism, and SEC enforcement actions (e.g., Dhaliwal et al. 2010; Krishnan and Visvanathan 2008; Zhang et al. 2007; Farber 2005). However, the purview of the audit committee has expanded in recent years to include areas such as risk management, information technology, and globalization, and the audit committee is also now viewed as playing an important role in the management of tax risk (Deloitte 2014; Deloitte 2013; Richardson et al. 2013; Deloitte 2011). Moreover, as the scope of the audit committee has expanded to include these areas, the risks associated with them have increased the value and importance of financial expertise possessed by audit committee members (KPMG 2017; KPMG 2015; KPMG 2012). Accordingly, and particularly in light of the complexity surrounding tax issues, audit committee members with financial expertise are in a unique position to oversee and evaluate a firm's tax planning activities, the related risks, and (as discussed below) the appropriateness of its tax planning given the firm's business strategy.

In a previous study, Robinson et al. (2012) examine the impact of financial expertise on the audit committee on tax avoidance in terms of both overall levels of tax avoidance and

⁵ Section 407 of SOX requires firms to disclose whether at least one of the audit committee members is a financial expert. The NYSE requires that at least one member of the audit committee have accounting or related financial management expertise and that all members of the audit committee be financially literate. The NASDAQ rules require companies to certify whether at least one member of the audit committee has past employment experience in finance or accounting, requisite professional certification in accounting, or any other comparable experience or background that results in the individual's financial sophistication, including being or having been a CEO, CFO, or other senior officer with financial oversight responsibilities.

the use of risky/uncertain tax avoidance strategies. They find a positive association between levels of accounting-specific financial expertise on the audit committee and levels of tax avoidance but a negative association between levels of accounting-specific financial expertise on the audit committee and the propensity toward employing risky tax planning strategies. These results suggest that financial experts on the audit committee serve an advising role with respect to tax planning overall but a monitoring role with respect to the degree of risk taken on by the firm in the tax planning process. We, however, argue that audit committee members vary how they perform these roles according to the firm's business-level strategy, which reflects its tolerance for risk and how it weighs costs and benefits in decision making processes. Thus, we extend the prior literature by investigating the advising and monitoring roles of financial experts on the audit committee with respect to tax planning in the context of the firm's business strategy.

2.2 Firm Business Strategy

The term business strategy describes how firms choose to compete and the strategic types that arise from the way firms decide to resolve three fundamental managerial problems: the entrepreneurial problem, the engineering problem, and the administrative problem (Miles et al. 1978). The entrepreneurial problem relates to how a firm should define the goods or services it will provide and the target markets or competitive domains in which it will compete. The engineering problem is related to the creation and implementation of the operational solution to address the entrepreneurial problem. The administrative problem considers how a company should rationalize and stabilize the organizational activities created to solve both the entrepreneurial and engineering problems.

Based on their research, Miles et al. (1978) develop a typology of four strategic types of organizations, namely defenders, analyzers, prospectors, and reactors, all of which attempt to simultaneously solve these three managerial problems.

Defender strategic types tend to compete by offering a limited set of products and/or services to narrow subsets or customer niches within the larger market. These firms seek market dominance through incremental growth of market share in their existing markets, often through competitive pricing tactics. By targeting stable and defensible market domains, defenders solve the engineering problem by focusing their efforts on producing and distributing goods and services in the most efficient and cost-effective manner possible. This strategic emphasis on increasing operational efficiency and stability often leads to a culture of careful planning, risk aversion, and uncertainty avoidance. On the other hand, prospectors, which lie at the opposite end of the strategic continuum, tend to compete by continually finding and exploiting new product and market opportunities. These firms compete broadly and seek market dominance through innovation and product and market development. For these firms, developing and maintaining a reputation as an innovator may be even more important than maintaining high levels of profitability. Prospectors take risks and are flexible, adaptive organizations, which enable them to quickly respond to new opportunities and changing competitive landscapes. Relative to defenders, prospectors are less concerned with minimizing costs and are more focused on experimentation and innovation. Analyzers, the third strategic type identified by Miles et al (1978), possess characteristics shared by both defenders and prospectors and attempt to maintain market share while also being innovative. Finally, reactors do not follow a consistent or deliberate

strategy and are considered a dysfunctional organizational form (Zahra & Pearce 1990). Thus, reactor firms are almost always excluded in empirical studies using the Miles and Snow typology (including the current study).

Consistent with these strategic types, we would expect managers of defenders to be more conservative than others and more sensitive to the uncertainty associated with tax avoidance, the potential for tax authorities to levy penalties, and the potential damage to their reputation associated with public disclosure of involvement in particularly egregious avoidance activities. As a result, left to their own devices, managers following a defender strategy are more likely to forgo tax avoidance opportunities viewed as costly or risky, even if the tax avoidance would likely ultimately benefit shareholders. Conversely, the strategic emphasis for prospectors often leads to a culture of competitive aggressiveness and risk taking, which is likely to permeate into these firms' tax avoidance activities. In addition, prospectors are less likely to formally plan, a factor which may cause them to put less weight on careful analysis of the costs and benefits of tax planning as they opt to engage in more risky tax avoidance strategies. Managers of prospectors are likely to be less sensitive to the uncertainties associated with aggressive tax avoidance and more likely to have a higher tolerance threshold for concerns associated with potential tax penalties or threats to the firm's reputation due to public disclosures of serious tax violations. Left to their own devices, managers of firms following a prospector strategy are therefore more likely to be aggressive with their tax planning behavior.⁶

⁶ The three strategic types considered in this study represent a strategy continuum with defenders on one end, prospectors on the other, and analyzers in the middle. Our analyses focus specifically

Higgins et al. (2015) explore the association between tax avoidance and firm business strategy using the Miles et al. (1978) framework. Consistent with these characterizations of the defender and prospector strategy types, they find that prospectors engage in more tax avoidance and do so in more risky and uncertain ways than defenders. They attribute these results to differences in how firms weigh the costs, benefits, and risks of tax planning across different business strategy types.

2.3 Financial Expertise on the Audit Committee and Firm Business Strategy

As discussed above, we extend this work and argue that financial experts on the audit committee fulfill their monitoring and advising roles in the tax planning process in the context of the firm's business strategy. This is because the board of directors, of which the audit committee is a subset, plays a key role in establishing and maintaining the strategic direction of the firm and the general premise of managerial decision making (Baysinger and Hoskisson 1990; Mizuchi 1983). Fama and Jensen (1983) discuss the importance of boards' ratification and monitoring of managers' decisions. However, boards' influence on firm outcomes can result from a variety of activities, including establishing goals and objectives to direct executives' attention to key performance outcomes consistent with shareholders' expectations, as well as through strategic decision making (Zahra and Pearce 1989; Mizuchi 1983). As such, boards perform not only a control role (e.g., protection of shareholders' interests), but also provide service (e.g., advice and counsel) and strategic (e.g., involvement

on defenders and prospectors because analyzers possess characteristics of both of the other strategy types (Higgins et al. 2015). Thus, we make no prediction about how this strategy type will interact with financial expertise on the audit committee as a determinant of tax avoidance.

in and articulation of mission and strategy, effective control of strategy) support to executives (Carpenter 1988; Baysinger and Butler 1985; Pfeffer and Salancik 1978).

One mechanism through which the board maintains the strategic direction of the firm and the general premise of managerial decision making is the decision control system employed (Baysinger and Hoskisson 1990). Broadly speaking, boards of directors have two types of decision control systems at their disposal, namely strategic controls and financial controls (Hoskisson and Hitt 1988; Gupta 1987). In financial control systems, managers are almost exclusively evaluated objectively in terms of the firm's ex post financial performance. In strategic control systems, managers are largely evaluated subjectively in terms of the quality of their decisions ex ante, but are also evaluated on their ex post financial objectives. The decision control system a board of directors relies upon while performing its oversight and premise setting roles is a function of the firm's business level strategy, as the business strategy informs the board's approach to evaluating executives and the quality of the decisions executives make.⁷

Because executives are aware of the decision control system utilized by the board of directors, their risk taking postures, as well as their effort and the direction of that effort,

⁷ For example, when a firm pursues a high risk strategy which requires significant investment in uncertain R&D activities (such as those generally pursued by prospector firms), the board of directors recognizes that managers are merely "influencers of events rather than the controllers of certain outcomes" (Bourgeois 1987, p. 347). As such, board members tend to rely upon strategic controls when they evaluate whether or not the decisions and actions of executives were appropriate within the context of the firm's propensity toward risk taking, or if the actions were the result of incompetence or opportunism. Similarly, when a firm pursues a less aggressive, more predictable and stable strategy (such as those generally pursued by defenders), the board's evaluation of executives relies more on financial controls, judging executives based on their achievement of financial objectives.

are affected (Hambrick and Snow 1989; Eisenhardt 1985). As the board of directors increases its reliance on financial controls, executives increasingly focus on short-term financial performance, and their efforts are potentially directed away from optimally risky strategies (e.g., more aggressive tax positions) which may benefit shareholders. As the board of directors increases its reliance on strategic controls, executives are inclined to pursue more (potentially overly) risky actions and decisions (e.g., more aggressive tax positions), and executives assign higher utility to uncertain cash flows and outcomes.

It is primarily within the committee structure that the appropriateness of managers' domain-specific decisions are evaluated and where domain-specific advising and monitoring roles are performed (Zahra and Pearce 1989; Jemison and Oakley 1983). When board committees are effective in fulfilling these roles, board members integrate their own skills and expertise (e.g., financial expertise) with their awareness of the operations and strategies of the firm and apply their expertise when they evaluate executives or make recommendations about firm-specific issues or concerns within the domain of the committee (Forbes and Milliken 1999; Zahra and Pearce 1989). Accordingly, given the complexity surrounding tax issues, we argue that audit committee members with financial expertise are in a position to oversee and evaluate the appropriateness of a firm's tax planning activities and the related risks *given the firm's business strategy*.

In the case of defenders, which are naturally risk averse and thus may tend to underinvest in tax avoidance from a value maximization standpoint (Higgins et al. 2015), we expect financial experts on the audit committee to take on more of an advising role, encouraging managers to engage in more tax avoidance activity than they would if left to

their own devices. Prospectors, on the other hand, are naturally prone to innovation and risk taking behaviors and thus may engage in more aggressive or uncertain tax avoidance than is optimal from a shareholder perspective (Higgins et al. 2015). Accordingly, we expect financial experts on the audit committee of a prospector firm to take on more of a monitoring role, reining in aggressive tax avoidance tactics that might expose the firm to overly high levels of related risk or costs. The preceding discussion leads to the following hypothesis:

H1: The association between the level of financial expertise on the audit committee and tax avoidance is moderated by business-level strategy such that the relation is more strongly positive or weakly negative for defender-type firms than for prospector-type firms.

3. RESEARCH METHODS

3.1 Measuring Tax Planning

The tax literature has developed several proxies for tax avoidance (Hanlon and Heitzman 2010). Following recent studies (e.g., Cook et al. 2017; Higgins et al. 2015; Robinson et. al. 2012; Minnick and Noga 2010), we employ firms' cash effective tax rates to proxy for tax avoidance broadly and unrecognized tax benefits to capture risky tax planning. We also use total and permanent book-tax differences as tax avoidance measures following prior literature. All of our tax avoidance measures are defined in detail in Appendix A.

Our first measure of tax avoidance is the cash effective tax rate (*CASH_ETR*). We define *CASH_ETR* as cash taxes paid divided by pretax book income. *CASH_ETR* reflects the extent to which managers view effective tax planning as the ability to minimize cash taxes paid. *CASH_ETR* also reflects tax avoidance strategies that defer cash taxes paid to later periods as well as those that avoid tax entirely (Cook et al. 2017; Hanlon and Heitzman 2010; Minnick and Noga 2010). Lower values of *CASH_ETR* represent higher levels of tax avoidance.

We use total book-tax differences (*BTD*) and permanent book-tax-difference (*PERMDIFF*) as our second and third proxies for firms' tax planning activities. The former contains information about both the broader impact of tax avoidance on income tax expense and more aggressive tax avoidance, including deferral (e.g., Chen et al. 2010; Wilson 2009). The latter captures the effects of ETR reconciliation items and represents non-conforming tax avoidance that does not reflect deferral strategies (Higgins et al. 2015; Hanlon and Heitzman 2010). Following Higgins et al. (2015), we define *BTD* as book income less estimated taxable income, scaled by lagged total assets and *PERMDIFF* as the difference between total book-tax differences and temporary book-tax-differences, scaled by lagged total assets. Prior research suggests that larger book-tax differences are associated with tax shelter activity (Wilson 2009) and higher proposed IRS audit adjustments (Mills 1998). Accordingly, larger values of *BTD* and *PERMDIFF* represent higher levels of tax planning.

We also build a measure based on uncertain tax benefits (Cook et al. 2017; Higgins et al. 2015). We use the firm's current-year additions to its uncertain tax benefits (i.e., additions to its tax contingency reserve) disclosed in the income tax footnote as a measure of the risk

and uncertainty associated with the firm's uncertain tax positions (*UTB*). Larger values of *UTB* represent higher levels of tax planning

We use industry-adjusted values for all of our tax avoidance measures to address potential industry effects. We calculate the mean of each tax avoidance measure by industry (two-digit SIC code) and year and subtract this mean from the raw measure to get the industry-adjusted value.

3.2 Measuring Firm Strategy

We rely on Bentley et al.'s (2013) and Higgins et al.'s (2015) discrete *STRATEGY* composite measure as our proxy for a firm's business strategy. Thus, we use the following six variables to construct our *STRATEGY* score: (1) the ratio of research and development to sales (*RD5*); (2) the ratio of employees to sales (*EMP5*); (3) the one-year percentage change in total sales (*REV5*); (4) the ratio of SG&A expenditures to sales (*SGA5*); (5) the standard deviation of total employees (σ *EMP5*); and (6) the ratio of net PPE scaled by total assets (*CAP5*). See Appendix B for detailed descriptions of the six components of *STRATEGY*.

Consistent with Ittner et al. (1997), Bentley et al. (2013), and Higgins et al. (2015), we compute all variables using a rolling average of the respective yearly ratios over the five years prior to year *t*. We then rank each of the six variables by forming quintiles within each 2-digit SIC industry-year. Within each industry-year, observations in the top quintile receive a score of 5, those in the next quintile receive a score of 4, etc., and those in the lowest quintile are given a score of 1.⁸ For each firm-year, we sum the scores across the six

⁸ The scoring for *CAP5* is inverted because defenders are expected to have the highest capital intensity.

variables such that the maximum score a firm could receive is 30, and the minimum score a firm could receive is 6. Higher scores represent firms that follow a more prospector-type strategy, while lower scores represent firms that follow a more defender-type strategy. Following Bentley et al.'s (2013) and Higgins et al.'s (2015) classification scheme, we classify firms with *STRATEGY* scores ranging from 6 (the minimum) to 12 as defenders and firms with *STRATEGY* scores ranging from 24 to 30 (the maximum) as prospectors. Firms with *STRATEGY* scores ranging from 13 to 23 are analyzers.

3.3 Base Empirical Model

To investigate whether financial expertise on the audit committee and firm business strategy interact to influence firms' tax avoidance behavior, we first specify the following base regression model (subscripts suppressed):

$$\begin{aligned} TaxPlanning = & \alpha + \beta_1 \%FEDIR + \beta_2 \%FEDIR * DEFENDER + \\ & \beta_3 \%FEDIR * PROSPECTOR + \beta_4 DEFENDER + \beta_5 PROSPECTOR + \quad (1) \\ & \gamma Controls + \varepsilon \end{aligned}$$

TaxPlanning is the dependent variable, representing the four tax avoidance measures discussed above (i.e., *CASH_ETR*, *BTD*, *PERMDIFF*, and *UTB*). Firms that engage in more tax avoidance behavior will have lower values for *CASH_ETR*, higher book-tax differences (*BTD* and *PERMDIFF*), and/or higher uncertain tax benefits (*UTB*). We estimate equation (1) separately for each of the four tax avoidance measures. *%FEDIR* is the proportion of independent financial expert directors on the audit committee and is one of the main independent variables of interest. *DEFENDER* and *PROPSECTOR* are indicator variables coded one if the *STRATEGY* score classification scheme discussed in the previous section

categorizes the firm as a defender or prospector, respectively. The standard errors are Huber-White robust standard errors.⁹

β_1 captures the effect of financial expert audit committee members on tax avoidance for analyzers. β_2 (β_3) captures the incremental effect of financial expert audit committee members on tax avoidance for defender-type (prospector-type) firms. While we do not make a prediction as to sign of the coefficient on %*FEDIR* itself (β_1), we expect an incrementally positive (negative) association with tax avoidance for defenders (prospectors). Accordingly, a negative (positive) value for β_2 (β_3) in the *CASH_ETR* model and a positive (negative) value for β_2 (β_3) in the *BTD*, *PERMDIFF*, and *UTB* models would provide initial support for our hypothesis.

To control for firm characteristics that may also relate to tax avoidance, we include a set of control variables (*Controls*). We draw these variables from prior tax avoidance literature. We include firm size (*SIZE*), research and development expense (*R&D*), capital expenditures (*CAPITAL*), the ratio of debt to total assets (*LEVERAGE*), the ratio of intangibles to total assets (*INTANG*), and the ratio of gross property, plant and equipment to total assets (*PPNE*) (Dyreng et al. 2010). We also add firm profitability (*ROA*) and net operating loss carryforwards (*NOL*) to control for firms' incentive to avoid income taxes (Chen et al. 2010; Rego 2003).

To further control for firms' incentives and opportunities to tax plan, we include an indicator variable identifying firms with foreign operations (*FOROP*). We also control for

⁹ Results are virtually identical if we use standard errors that are clustered by firm and year (Gow et al. 2010) or are unadjusted.

institutional ownership (*HELD_PCT*) as an additional corporate governance mechanism. Moreover, we control for CEO total compensation (*CEOCOMP*) and stock-based compensation (*STKMIX*) because prior studies find that the equity incentives of executives play a significant role in firms' level of tax avoidance (Rego and Wilson 2012; Desai and Dharmapala 2006). We control for the level of firms' discretionary accruals (*DACC*) because Frank et al. (2009) find a positive association between financial reporting aggressiveness and tax avoidance. Finally, we include pre-tax cash operating flows (*PRETAXCF*) in our regression model.

In addition to general firm attributes, prior studies (e.g., Armstrong et al. 2015; Richardson et al. 2013; Lanis and Richardson 2011) suggest a relation between board independence and tax avoidance. We control for certain board characteristics to ensure that *%FEDIR* is not capturing some dimension of board monitoring other than financial expertise. Prior studies generally suggest that a board's independence level is related to its monitoring effectiveness (e.g., Dechow et al. 1996). Thus, we control for board size (*BSIZE*) and board independence (*%OUTDIR*). We also control for the size (*ACSIZE*) and independence (*100%INDAUD*) of the audit committee because regulators view these attributes as important factors in the audit committee's ability to monitor effectively (Blue Ribbon Committee on Improving the Effectiveness of Corporate Audit Committees 1999; SOX 2002). All variables are defined in detail in Appendix A.

3.4 Defenders vs. Prospectors

After establishing initial results by estimating equation (1) using the full sample, we next focus our analyses on directly comparing defenders vs. prospectors for our main hypothesis tests. Using the sample of only defenders and prospectors, we specify the following regression model (subscripts suppressed):

$$\text{TaxPlanning} = \alpha + \beta_1\%FEDIR + \beta_2\%FEDIR*PROSPECTOR + \beta_3PROSPECTOR + \gamma\text{Controls} + \varepsilon \quad (2)$$

As discussed previously, *PROSPECTOR* is an indicator variable coded 1 for prospector-type firms, and 0 otherwise. Because we perform this regression analyses using only defender- and prospector-type firms, a 0 value for *PROSPECTOR* indicates defender-type firms. *TaxPlanning* represents the four tax avoidance measures discussed previously (*CASH_ETR*, *BTD*, *PERMDIFF*, and *UTB*). *Controls* represents the same set of control variables as in the base regression. Consistent with equation (1), the standard errors are Huber-White robust standard errors.¹⁰

The coefficient on *%FEDIR* represents the association between financial expertise on the audit committee and tax avoidance for defender-type firms, and the interaction between *%FEDIR* and *PROSPECTOR* captures the degree to which this association differs for prospector-type firms. A positive coefficient on *%FEDIR*×*PROSPECTOR* in the *CASH_ETR*

¹⁰ As with equation (1), results are virtually identical if we use standard errors that are clustered by firm and year (Gow et al. 2010) or are unadjusted.

model and a negative value on $\%FEDIR \times PROSPECTOR$ in the *BTD*, *PERMDIFF*, and *UTB* models would be consistent with our hypothesis.

3.5 Data and Descriptive Statistics

Our sample selection process begins with all firms possessing available data from COMPUSTAT, covering the years from 2004 to 2012. We restrict the sample to the post-2003 period because the SOX provision regarding financial experts became effective in 2003. COMPUSTAT provides firm-specific financial information. We obtain board data from the GMI Ratings (previously Corporate Library) database. From GMI Ratings, we obtain each director's portfolio and manually check each audit committee member's credentials.¹¹ We identify an audit committee member as a financial expert if s/he has experience as a Chief Financial Officer, Accounting Officer, Chief Accountant, Controller, Certified Public Accountant, Chartered Accountant, Financial Officer, Head of Accounting, Vice President of Accounting, Chief Executive Officer, and/or President (Badolato et al. 2014; SOX 2002).

We start with 47,879 firm-year observations from COMPUSTAT with sufficient data to calculate *STRATEGY* during the 2004 to 2012 period.¹² We then exclude firm-year observations without board and/or audit committee data from GMI Ratings. This procedure

¹¹ Although GMI Ratings provides a variable identifying financial expert directors on the audit committee (COMMITTEEAUDITFINANCIALEXPERT), this variable is missing in 2001, 2002, and 2003. It is also missing data for numerous observations in other years (i.e., 2009, 2010). As a result, we believe it is more accurate to identify audit committee financial experts by checking each director's portfolio directly.

¹² We require five years of data (years $t-5$ to $t-1$) to compute each firm-year's value for *STRATEGY*. We also require an additional year's data to create lagged variables, expanding our data needs back to 1999.

reduces our sample to 19,709 observations. We then eliminate observations without Execucomp data necessary to calculate CEO equity incentives, reducing the sample to 12,942 observations. Finally, we exclude firm-year observations without sufficient data to calculate all tax avoidance and control variables. Our resultant final sample consists of 9,670 firm-year observations during the 2004-2012 period. To reduce the effects of extreme observations, we winsorize all continuous variables at the 1st and 99th percentiles.

-- INSERT TABLE 1, PANEL A ABOUT HERE --

Panel A of Table 1 reports descriptive statistics for the variables used in our base regression analysis. The mean (median) values for our tax avoidance variables are 0.027 (0.004), 0.017 (0.010), 0.016 (0.005), and 0.826 (0.330) for *CASH_ETR*, *BTD*, *PERMDIFF*, and *UTB*, respectively. The statistics for our primary explanatory variables indicate that the mean proportion of independent financial experts on the audit committee is about 60 percent. Given that the mean audit committee size is 3.73 members, the average number of financial experts on the audit committee is 2.27, comparable with prior studies (e.g., Badolato et al. 2014). In addition, about 11.2 (5.6) percent of firm-years are classified as defenders (prospectors) according to the *STRATEGY* score discussed previously. The statistics for our other board and audit committee variables indicate that the average board in our sample is about 70 percent independent and that about 79 percent of sample firms have an audit committee comprised entirely of independent directors. It is also worth noting that the average firm in our sample is profitable and has positive pretax operating cash flows, with mean (median) *ROA* and *PRETAXCF* values of 0.108 (0.086) and 0.147

(0.129), respectively. Finally, firms in our sample are over 78 percent owned by institutions on average.

-- INSERT TABLE 1, PANEL B ABOUT HERE

Panel B of Table 1 shows statistics for several board and audit committee characteristics, including financial expertise, broken out by strategy type (i.e., defenders and prospectors). As alluded to above, we categorize 1,080 firm-year observations as defenders and 541 firm-year observations as prospectors based on our classification scheme, consistent with Higgins et al. (2015), whose sample also consists of more defender (1,954) than prospector (1,242) observations. The statistics on board and audit committee characteristics show that prospectors have smaller boards and audit committees, less independent boards, and fewer financial experts on the audit committee than defenders.

-- INSERT TABLE 2 ABOUT HERE --

Table 2 presents univariate Spearman correlations for our regression variables. The primary concern here is the potential for harmful collinearity among the independent variables. The highest correlation among the independent variables is 0.84 between *ROA* and *PRETAXCF*, which approaches a level sufficient to raise a concern. Two other correlations also exceed 0.6 (0.72 between *CAPITAL* and *PPNE* and -0.62 between *SIZE* and *CEOCOMP*). All other correlation coefficients are below 0.6. Overall, Table 2 suggests that collinearity is likely not a problem in our data. Nonetheless, we perform tests to ensure that our findings are not driven by the higher correlations listed above (discussed later in “Sensitivity Tests”).

4. EMPIRICAL RESULTS

4.1 Baseline Regression Results – Full Sample

Table 3 presents the results for our base regression analysis, which includes the full sample. Across the four models, statistical significance is based on two-tailed p-values. The coefficient on *%FEDIR* represents the association between tax avoidance and financial expertise on the audit committee for analyzers only. It is positive in the *CASH_ETR* model and negative in the other three, although not significantly so in any model.

The interaction terms relate to our hypothesis, illustrating the extent to which this association differs for defenders and prospectors relative to analyzers. *%FEDIR*DEFENDER* is significantly negative (positive) at the 0.01 (0.05) level in the *CASH_ETR (UTB)* model, and *%FEDIR*PROSPECTOR* is significantly negative at least at the 0.10 level in the *BTD*, *PERMDIFF*, and *UTB* models. Further, while *%FEDIR*DEFENDER* and *%FEDIR*PROSPECTOR* are not statistically significant in the *BTD* and *PERMDIFF* and *CASH_ETR* models, respectively, the signs of their coefficients are opposite of those for the significant interactions involving the opposing strategy type.

-- INSERT TABLE 3 ABOUT HERE --

Overall, these findings provide some initial (albeit somewhat weak) support for H1 and are generally consistent with the Adams and Ferreira (2007) view characterizing the board as serving dual roles as both monitors of and advisors to management. The more positive

association between financial expertise on the audit committee and tax avoidance for defenders (in the *CASH_ETR* and *UTB* models) is consistent with these financial experts serving an advising role with respect to tax planning, encouraging firms of that strategy type to engage in more tax avoidance relative to other firms. Conversely, the more negative association between financial expertise on the audit committee and tax avoidance for prospectors (in the *BTD*, *PERMDIFF*, and *UTB* models) is consistent with these financial experts serving a monitoring role with respect to tax avoidance, encouraging firms of that strategy type to scale back on tax avoidance relative to other firms.

Results for the control variables reported in Table 3 are mixed but generally consistent with prior research. In accordance with the evidence in Higgins et al. (2015), *DEFENDER* is positive in the *CASH_ETR* model and negative in the other three, although it is significant only in the *CASH_ETR* and *PERMDIFF* models. Similarly, *PROSPECTOR* is negative in the *CASH_ETR* model and positive in the other three, albeit significantly so only in the *PERMDIFF* and *UTB* models. With respect to the other board characteristics, *ACSIZE* is negatively related with tax avoidance in every model, significantly so in all but one (*UTB*). Board size (*BSIZE*), on the other hand, is negatively and significantly related with tax avoidance in the *PERMDIFF* model ($p < 0.10$) but is *positive* and significant ($p < 0.01$) in the *UTB* model. *%OUTDIR* and *100%INDAUD* are significantly positive in the *UTB* model but insignificant in the other three.

Other notable statistics among the control variables include *R&D*, which is positively and significantly associated with tax avoidance in every model. Similarly, *ROA* and *LEVERAGE*

(*SIZE*) are positively and significantly related to tax avoidance in all but the *UTB (BTD)* model.

Several variables show mixed results. *INTANG* and *FOROP* are both significantly positive in the *CASH_ETR* and *UTB* models and insignificant in the other two. Similarly, *PPNE*, *HELD_PCT*, and *STKMIX* are significantly positive the *BTD* and *PERMDIFF* models but significantly *negative* in the *UTB* model. *CEOCOMP* and *PRETAXCF* are significant in every model but are directionally inconsistent across the tax avoidance measures.

4.2 Main Hypothesis Test Results - Defenders and Prospectors Only

The preceding baseline analysis uses the full sample, incorporating the entire strategy type continuum. For our main hypothesis tests, we re-estimate the regressions reported in Table 3 including only defender- and prospector-type firms to facilitate a stronger and more direct comparison between firms at opposite ends of the strategy continuum. The results for this analysis are reported in Table 4. Across the four models, statistical significance is again based on two-tailed p-values. The results for the control variables are generally similar to those reported in Table 3, although with some differences in significance levels.

%FEDIR, which now represents the association between tax avoidance and financial expertise on the audit committee for *defenders*, is significantly negative ($p < 0.01$) in the *CASH_ETR* model and is positive in the other three models, albeit insignificantly so. For prospectors, *%FEDIR*PROSPECTOR* is significantly positive ($p < 0.01$) in the *CASH_ETR* model and significantly negative at least at the 0.05 level in the *BTD*, *PERMDIFF*, and *UTB* models.

Overall, the significant coefficients on *%FEDIR*PROSPECTOR* in the predicted directions provide consistent support for H1. The results in Table 4 also consistently imply that, on

average, financial expert audit committee members rein in prospectors' (but not defenders') tax avoidance behavior and encourage defenders (but not prospectors) to engage in tax avoidance, at least with respect to cash taxes paid. These findings suggest that financial expert audit committee members vary how they approach their relationship with management according to the strategic profile of the firm, acting more as advisors with respect to defender-type firms and more as monitors with respect to prospector-type firms (Adams and Ferreira 2007).

-- INSERT TABLE 4 ABOUT HERE --

4.3 Accounting and Non-Accounting Financial Expertise on the Audit Committee

We next explore whether our main findings are driven by one or more types of financial expertise on the audit committee. Specifically, we expand on the results reported in Table 4 by decomposing $\%FEDIR$ into its accounting and non-accounting parts and testing for the extent to which either or both contribute to our findings. This test is motivated by the ongoing debate over what constitutes financial expertise for purposes of effective audit committee oversight. The SEC limited its original proposed definition of financial expertise for purposes of SOX to those with accounting-specific background and knowledge (e.g., CPAs, auditors, controllers, etc.). However, widespread criticism of such a narrow concept of financial expertise led to a much broader final definition that also includes those with

finance and relevant supervisory backgrounds (e.g., investment bankers, financial analysts, CEOs, presidents, etc.).¹³

The empirical evidence on whether non-accounting expertise contributes to the effectiveness of the audit committee is mixed. Krishnan and Visvanathan (2008) find a positive association between accounting expertise on the audit committee and accounting conservatism but no relation for non-accounting financial expertise. Conversely, Zhang et al. (2007) and Dhaliwal et al. (2010) find that both accounting and non-accounting financial experts contribute to the effectiveness of audit committee oversight in the areas of internal control weaknesses and accruals quality, respectively. As discussed previously, Robinson et al. (2012) find accounting expertise to be positively (negatively) related to levels of tax avoidance (risky tax avoidance). However, they also find a *positive* association between non-accounting financial expertise and risky tax avoidance, implying that non-accounting financial experts encourage managers to pursue aggressive and uncertain tax strategies on average.

To explore whether our main findings are driven by accounting financial experts, non-accounting financial experts, or both types on the audit committee, we re-perform the

¹³ Critics of the SEC's originally proposed definition argued that non-accounting financial experts often have considerable experience in carrying out due diligence with regard to forecasting future performance, developing business strategy, and coping with major corporate events. Accordingly, a narrow accounting-based definition of financial expertise is unnecessarily restrictive and limits the pool of qualified directors. For example, the American Association of Bank Directors argued that such a definition even disqualifies Alan Greenspan as a financial expert, and a Wall Street Journal article questioned whether Warren Buffet would meet the requirements as well (American Association of Bank Directors 2002).

regression analysis reported in Table 4 breaking *%FEDIR* into two components, accounting-specific expertise (*%ACCDIR*) and non-accounting-specific financial expertise (*%NONACCDIR*). We include both variables in the model and interact each of them with *PROSPECTOR*. As in Table 4, *%ACCDIR* and *%NONACCDIR* represent the association between financial expertise (accounting and non-accounting, respectively) and tax avoidance for defenders, and the interaction terms capture the degree to which those associations differ for prospectors.

-- INSERT TABLE 5 ABOUT HERE --

The results for this analysis are presented in Table 5; we omit the control variables for brevity. Looking at the association between financial expertise on the audit committee and tax avoidance for defenders, *%ACCDIR* ($p < 0.10$) and *%NONACCDIR* ($p < 0.01$) are both significantly negative in the *CASH_ETR* model. *%NONACCDIR* is also significantly positive in the *PERMDIFF* model ($p < 0.10$). For prospectors, both *%ACCDIR*PROSPECTOR* and *%NONACCDIR*PROSPECTOR* are positive in the *CASH_ETR* model and negative in the other three. However, while *%NONACCDIR*PROSPECTOR* is highly significant in every model ($p < 0.01$), *%ACCDIR*PROSPECTOR* is not significant in any model. These results suggest that while both types of financial expertise play a role in the tax planning process at some level, non-accounting financial expertise appears to generally have a more consistent impact across our tax avoidance measures.

In untabulated tests, we find that the results related to non-accounting financial expertise on the audit committee are primarily driven by audit committee members with

experience as a CEO (i.e., supervisory experience). Specifically, when we decompose %NONACCDIR into parts representing audit committee members with and without CEO experience, those with CEO experience show significant results more consistently than those without. Financial expert audit committee members with CEO experience show significant results in all four models, whereas those without CEO experience show significant results only in the *CASH_ETR* and *PERMDIFF* models.

We perform Wald tests (untabulated) to directly compare the influence of accounting vs. non-accounting financial expert audit committee members on tax avoidance as implied by our Table 5 results. Examining differences in these associations separately for defenders (%ACCDIR vs. %NONACCDIR), the interaction terms themselves, and prospectors (the sums of the coefficients on %ACCDIR vs. %NONACCDIR and their respective interaction terms), we find little significant dissimilarity between accounting and non-accounting financial expert audit committee members. Specifically, %NONACCDIR is significantly more strongly positive than %ACCDIR in the *PERMDIFF* model ($p < 0.01$), and %NONACCDIR*PROSPECTOR is significantly more strongly negative than %ACCDIR*PROSPECTOR in the *UTB* model at marginal levels ($p < 0.10$). No other direct comparison between the influence of accounting vs. non-accounting expertise on the audit committee shows a significant difference.

Overall, these results suggest that both accounting and non-accounting financial expert audit committee members play a role with respect to firms' tax planning processes to some degree. Further, non-accounting financial experts (with supervisory experience) appear to significantly impact tax avoidance behavior more consistently than accounting financial

experts across our various tax measures, but their effects do not dominate those of accounting financial experts on average when compared directly.

4.4 Sensitivity Tests

We perform multiple analyses to test the robustness of our main results. First, **we consider** the possibility that *PROSPECTOR* is endogenous in our tax avoidance models. Specifically, while our main analyses focus on the impact of firm strategy and its interaction with financial expertise on the audit committee on tax avoidance, it is possible that a firm's tax status/position might also partially drive some of the variables used to derive our firm strategy measure (e.g., research and development expense, number of employees, selling and administrative expenses, and capital expenditures).

We test for the endogeneity of *PROSPECTOR* using both the IVREG2 and IVENDOG commands in STATA. For purposes of these tests, we employ three instrumental variables for *PROSPECTOR*. The first is industry (proxied for using two-digit SIC code). Consistent with contingency theory, every organization is embedded in a network of external influences and relationships which can be labeled as its environment, such as product and labor market conditions, industry customs and practices, governmental regulations, and relationships with suppliers of financing and raw materials. Firms must match their business strategy to these environmental forces in order to succeed. For example, in turbulent environments, firms should pursue a strategy emphasizing innovation and differentiation, while more stable environments reward more conservative, low-cost approaches (Lee and Miller 1996). The second instrumental variable is the current age of the CEO. Prior research has shown

that older CEOs are more risk averse and are less likely to invest in R&D (Chowdury and Fink 2017; Kalyta 2009), which is critical to support a prospector strategy. Our use of this instrument stems from the likely role of the firm's top decision makers, who serve as the primary link between the organization and its environment, in setting business strategy (Miller and Snow 1978). The third instrument is the Herfindahl-Hirschman index based on total shareholders' equity, which captures industry concentration. Prior studies suggest that industry concentration affects firms' stock returns (Hou and Robinson 2006), informativeness of corporate disclosure policies (Ali et al. 2014), and innovation. Based on these findings, we conjecture that industry concentration likely affects a firm's business strategy as well.¹⁴ Results for these tests indicate no endogeneity for *PROSPECTOR* and suggest that OLS is consistent and appropriate for our main analyses. Specifically, across the four models, the endogeneity statistics produced by STATA (e.g., Wu-Hausman, Durbin-Wu-Hausman) are all insignificant, with p-values ranging from 0.28 to 0.54.

Our second set of sensitivity tests relates to the high correlations among some of our control variables discussed previously. First, we calculate variance inflation factors (VIFs) for the regression models reported in Table 4. Across all models and all variables, the highest VIF value is 5.73 (*PROSPECTOR* in the *BTD* model), indicating that our results are not likely

¹⁴ We test for the sufficiency and appropriateness of these instruments using the Kleibergen-Paap statistic for under-identification and the Cragg-Donald statistic for weak instruments based on the Stock and Yogo (2005) threshold levels for relative bias. In all cases, the Kleibergen-Paap statistic is highly significant ($p < 0.01$), indicating that our models are not under-identified. Further, the Cragg-Donald statistic exceeds the Stock and Yogo (2005) 10 percent relative bias threshold in every model, and the 5 percent relative bias threshold in three of four models. Based on these results, we conclude that our instrumental variables are relevant (i.e., representative of *PROSPECTOR*) and appropriate for our endogeneity tests.

affected by multicollinearity. Nonetheless, as an additional test to ensure that our results are not driven by the effects of collinearity, we re-estimate equation (2) three times, first omitting *PRETAXCF*, then (separately) omitting *PPNE*, and lastly (separately) omitting *CEOCOMP*. In all cases, our results for equation (2) remain qualitatively the same as those reported in Table 4.

4.5 Summary

Overall, our results suggest that financial expert audit committee members fulfill dual roles as advisors and monitors in the context of tax planning, and that their selection into these roles is at least partially driven by the business strategy of the firm. Our evidence of a negative association between *CASH_ETR* and financial expertise on the audit committee for defenders is consistent with financial expert audit committee members serving more of an advising function for such firms, encouraging them to engage in more (cash) tax planning activity relative to other firms. On the other hand, our evidence is also consistent with financial experts on the audit committee serving more as monitors with respect to tax planning for prospector-type firms. For these firms, our results indicate a significantly more (and net) negative relation between tax avoidance and financial expertise on the audit committee overall. Additionally, our results suggest that both accounting and non-accounting financial experts on the audit committee influence tax planning at some level, although the impact of non-accounting financial experts appears to present more consistently than that of accounting financial experts across various tax measures. When

compared directly, however, the effects of non-accounting financial expertise do not dominate the effects of accounting financial expertise overall.

5. CONCLUDING REMARKS

This paper examines whether financial expert audit committee members tailor their approach to overseeing the corporate tax planning process according to the business strategy of the firm. Specifically, we investigate the extent to which such directors perform their dual roles as advisors and monitors (Adams and Ferreira 2007) with respect to tax avoidance differently across business strategy types. The management literature suggests that directors serving on various committees integrate their own expertise with their understanding of firm strategy in overseeing issues within the domain of the committee (Forbes and Milliken 1999; Zahra and Pearce 1989). We argue that this integration applies to financial expert audit committee members with respect to issues within the scope of audit committee oversight, including tax planning, such that they factor business strategy into their judgments and recommendations on such issues.

Following Miles et al. (1978) and Higgins et al. (2015), we classify firms into three broad strategy types, focusing primarily on (more risk averse) defenders and (more risk seeking) prospectors. Prior research suggests that managers of defenders are more likely to forgo tax avoidance opportunities that are potentially beneficial to shareholders while managers of prospectors are more likely to be aggressive with their tax planning behavior, including that which is risky or uncertain (Higgins et al. 2015). Expanding on prior evidence (e.g., Higgins et al. 2015; Robinson et al. 2012), we expect financial expert audit committee members to act

in more of an advising capacity in the tax planning process for defenders and in more of a monitoring capacity in the tax planning process for prospectors (relative to one another).

Our results are consistent with our prediction. We find a positive association between the proportion of independent financial experts on the audit committee and tax avoidance for defenders, at least with respect the *cash* tax planning. We also find a consistently more (and net) negative association between the proportion of independent financial experts on the audit committee and tax avoidance for prospectors, relative to defenders. Further, results of supplemental tests indicate that both accounting and non-accounting financial experts on the audit committee contribute to our main findings at some level, although the effects of non-accounting financial experts present more consistently across our analyses.

Overall, our results suggest that financial expert audit committee members play more of an advising role for defender-type firms with respect to tax planning broadly and more of a monitoring role for prospector-type firms. These findings build upon prior studies as we show that financial expert audit committee members alter the manner in which they perform their advisory and monitoring roles around tax planning issues according to the firm's business strategy. Thus, our study helps to provide a richer understanding of how board members approach oversight of the corporate tax planning process. Our evidence also extends Higgins et al. (2015) by documenting that certain corporate governance mechanisms influence managerial decision making differentially across business strategy types. One potential implication of our findings is that future studies examining the impact of board characteristics on firms' operational or reporting behavior may benefit from incorporating business strategy into their analyses.

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Appendix A: Variable Definitions

<i>Tax Avoidance Measures</i>	
CASH_ETR	Industry-adjusted cash effective tax rate. Cash ETR is defined as cash taxes paid (TXPD) divided by pretax book income (PI). Cash ETRs with negative denominators are deleted. The remaining non-missing ETRs are winsorized (reset) so that the largest observation is equal to 1 and the smallest is equal to 0. The industry mean of cash ETR is calculated by year and industry (two-digit SIC code). Industry-adjusted cash ETR is calculated as cash ETR less the industry mean.
BTD	Industry-adjusted total book tax differences. Total book-tax differences are defined as pretax income less estimated taxable income, scaled by lagged assets (AT). Pretax book income is defined as pretax income (PI). Estimated taxable income is defined as the sum of current federal tax expense (TXFED) and current foreign tax expense (TXFO) divided by the top U.S. statutory tax rate. If current federal tax expense is missing, then we calculate it as total tax expense (TXT) minus deferred tax expense (TXDI), state income taxes (TXS), and current

	foreign tax expense (TXFO). The industry mean of total book-tax differences is calculated by year and industry (two-digit SIC code). Industry-adjusted BTD is calculated as total book-tax differences less the industry mean.
PERMDIFF	Industry-adjusted permanent book-tax differences. Permanent book-tax differences are computed as the difference between total book-tax differences and temporary book-tax differences, scaled by beginning of the year total assets (AT). Total book-tax differences are defined above. Temporary book-tax differences are defined as deferred tax expense (TXDI) divided by the top U.S. statutory tax rate. The industry mean of permanent BTDs is calculated by year and industry (two-digit SIC code). Industry-adjusted PERMDIFF is calculated as permanent book-tax differences less the industry mean.
UTB	Industry-adjusted unrecognized tax benefits, defined as the log value of one plus the increase in current uncertain tax positions (TXTUBPOSINC). The industry mean of UTB is calculated by year and industry (two-digit SIC code). Industry-adjusted UTB is calculated as unrecognized tax benefits less the industry mean.

Board Measures	
%FEDIR	Percentage of independent financial experts on the audit committee.
%ACCDIR	Percentage of independent accounting experts on the audit committee. A director is defined as an accounting expert if he or she has work experience as a certified public accountant, auditor, CFO, financial comptroller, financial controller, or accounting officer.
%NONACCDIR	Percentage of independent non-accounting financial experts on the audit committee. A director is defined as

	a non-accounting financial expert if he or she does not have work experience as a certified public accountant, auditor, CFO, financial comptroller, financial controller, or accounting officer but does have work experience as an investment banker, financial analyst, or any other financial management role, or experience supervising the preparation of financial statements (e.g., CEO or company president).
BSIZE	Log value of the number of directors on the board.
%OUTDIR	Percentage of independent directors on the board.
ACSIZE	Log value of the number of audit committee members.
100%INDAUD	Indicator variable coded 1 if the audit committee is composed 100% of independent directors.
<i>STRATEGY Components</i>	
RD5	Five year rolling average (year t-5 through year t-1) of the yearly ratio of research and development expense (XRD) to beginning of year total sales (SALE).
EMP5	Five year rolling average (year t-5 through year t-1) of the yearly ratio of the total number of employees (EMP) to beginning of year total sales (SALE).
REV5	Average annual percentage change in total sales (SALE) computed over a rolling five year period (year t-5 through year t-1).
SGA5	Five year rolling average (year t-5 through year t-1) of the yearly ratio of SG&A expense (XSGA) to beginning of year total sales (SALE).
6EMP5	Standard deviation of the total number of employees (EMP) computed over a rolling prior five year period (year t-5 through year t-1).
CAP5	Five year rolling average (year t-5 through year t-1) of the yearly ratio of net property, plant, and equipment

	(PPENT) to beginning of year total assets (AT).
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Control variables	
SIZE	Log value of lagged total assets (AT).
ROA	Pre-tax income (PI), scaled by lagged total assets (AT).
R&D	Research and development expense (XRD), scaled by lagged total assets (AT). When XRD is missing, we set the value to 0.
CAPITAL	Capital expenditures (CAPX) scaled by lagged total assets (AT).
LEVERAGE	Sum of long-term debt (DLTT) and long-term debt in current liabilities (DLC), scaled by lagged total assets (AT).
INTANG	Intangible assets (INTAN), scaled by lagged total assets (AT).
PPNE	Gross property, plant and equipment (PPEGT), scaled by lagged total assets (AT).
NOL	Indicator variable coded 1 for firms with non-missing and non-zero values for tax loss carryforward (TLCF).
FOROP	Indicator variable coded 1 for firms with non-missing and non-zero values for pretax foreign income (PIFO).
HELD_PCT	Percent of outstanding shares held by institutions (from Thomson-Reuters 13f Holdings).
DACC	Adjusted discretionary accruals based on the performance-adjusted modified cross-sectional Jones model.
CEOCOMP	CEO total compensation (Salary + Bonus + Other Annual + Restricted Stock Grants + LTIP Payouts + All Other + Value

	of Options Exercised), scaled by lagged total assets (AT).
STKMIX	CEO stock-based compensation, defined as the value of overall stock based compensation (OPTION_AWARDS_BLK_VALUE, RSTKGRNT) as a fraction of total compensation (OPTION_AWARDS_BLK_VALUE, RSTKGRNT, SALARY, and BONUS).
PRETAXCF	Pretax cash flows, defined as cash flows from operating activities (OANCF) plus taxes paid (TXPD), scaled by lagged total assets (AT).

APPENDIX B: Business Strategy Characteristics

	Prospector	Analyzer	Defender
Research and Development (RD5)	Extensive R&D to identify new products and market opportunities	Extensive R&D to identify new products and market opportunities	Minimal R&D, which is usually related to existing products
Employees (EMP5)	More employees per dollar of sales	Moderate employees per dollar of sales	Fewer employees per dollar of sales because defenders focus on organizational efficiency

Growth (REV5)	Growth occurs in spurts through product and market development.	Steady growth through both market penetration and product and market development	Cautious and incremental growth and advances in productivity
Marketing (SGA5)	Strong focus on marketing.	Strong focus on marketing in innovative sector.	Strong emphasis on financial and production functions and less on marketing.
Employee turnover (σ EMP5)	Higher employee turnover focusing on shorter employee tenure	Moderate employee turnover	Low employee turnover focusing on lengthy employee tenure and promotion from within the firm
Capital Intensity (CAP5)	Low degree of mechanization and routinization to avoid a lengthy commitment to a single technological process	Moderate degree of mechanization and routinization while remaining flexible enough to pursue new business activities	High degree of mechanization and routinization focusing on a single core-efficient technology

Table 1										
Descriptive Statistics										
Panel A: Full Sample	N	Mean	Std. Dev.	25%	Median	75%				
<i>Continuous</i>										
CASH_ETR	9,670	0.027	0.191	-0.093	0.004	0.094				
BTD	7,758	0.017	0.047	-0.008	0.010	0.034				
PERMDIFF	7,741	0.016	0.048	-0.004	0.005	0.022				
UTB	5,147	0.826	1.366	-0.151	0.330	1.597				
# of FEDIR	9,670	2.268	1.265	1	2	3				
%FEDIR	9,670	0.606	0.290	0.333	0.667	0.800				
STRATEGY	9,670	17.099	3.810	14	17	20				
SIZE	9,670	7.839	1.657	6.636	7.691	8.894				
ROA	9,670	0.108	0.090	0.042	0.086	0.149				
R&D	9,670	0.024	0.047	0.000	0.000	0.027				
CAPITAL	9,670	0.049	0.058	0.014	0.032	0.063				
LEVERAGE	9,670	0.228	0.210	0.053	0.194	0.336				
INTANG	9,670	0.203	0.226	0.019	0.122	0.318				
PPNE	9,670	0.486	0.422	0.144	0.371	0.759				
HELD_PCT	9,670	0.785	0.205	0.667	0.812	0.923				
DACC	9,670	-0.001	1.589	-0.040	0.011	0.099				
CEOCOMP	9,670	2.835	3.494	0.630	1.670	3.627				
STKMIX	9,670	0.562	0.300	0.401	0.662	0.797				
PRETAXCF	9,670	0.147	0.104	0.075	0.129	0.198				
# of Directors	9,670	9.823	2.638	8	9	11				
BSIZE	9,670	2.249	0.269	2.079	2.197	2.398				
%OUTDIR	9,670	0.700	0.160	0.600	0.714	0.833				
# of Audit Committee Mbrs	9,670	3.725	1.044	3	4	4				
ACSIZE	9,670	1.530	0.214	1.386	1.609	1.609				
<i>Categorical</i>										
DEFENDER	9,670	0.112	0.315							
PROSPECTOR	9,670	0.056	0.230							
NOL	9,670	0.618	0.486							
FOROP	9,670	0.553	0.497							
100%INDAUD	9,670	0.795	0.404							

Table 1						
<i>Descriptive Statistics (cont.)</i>						
<u>Panel B: Defenders and Prospectors</u>						
Variables	N	Mean	Std. Dev.	25%	Median	75%
DEFENDER = 1						
# of Directors	1,080	10.141**	2.486	8	10	12
%OUTDIR	1,080	0.724**	0.158	0.625	0.750	0.875
# of Audit Committee Mbrs	1,080	3.897**	1.094	3	4	5
% Independent Audit Committee Mbrs	1,080	0.926	0.166	1	1	1
# of FEDIR	1,080	2.419**	1.288	1	2	3
%FEDIR	1,080	0.618**	0.274	0.400	0.667	0.800
# of ACCDIR	1,080	0.450	0.611	0	0	1
%ACCDIR	1,080	0.122	0.171	0	0	0.250

*** indicates a statistically significant difference between defenders and prospectors at the 1% level.

CASH_ETR is cash taxes paid divided by pretax book income. Cash ETRs with negative denominators are deleted. The remaining non-missing ETRs are winsorized (reset) so that the largest observation is equal to 1 and the smallest is equal to 0. This variable is industry-adjusted by subtracting the industry mean (by year and two-digit SIC code). *BTD* is total book-tax differences, defined as pretax income less estimated taxable income, scaled by lagged assets. Estimated taxable income is the sum of current federal tax expense and current foreign tax expense divided by the top U.S. statutory tax rate. If current federal tax expense is missing, then we calculate it as total tax expense minus deferred tax expense, state income taxes, and current foreign tax expense. This variable is industry-adjusted by subtracting the industry mean (by year and two-digit SIC code). *PERMDIFF* is the difference between total book-tax differences (defined as in *BTD*) and temporary book-tax differences, scaled by beginning of the year total assets. Temporary book-tax differences are deferred tax expense divided by the top U.S. statutory tax rate. This variable is industry-adjusted by subtracting the industry mean (by year and two-digit SIC code). *UTB* is the log value of one plus the increase in current uncertain tax positions, industry-adjusted by subtracting the industry mean (by year and two-digit SIC code). *# of FEDIR* is the number of independent financial experts on the audit committee. *%FEDIR* is the percentage of independent financial experts on the audit committee. *STRATEGY* is the firm strategy score for firm *i* in year *t*, measured following Bentley et al. (2013) and Higgins et al. (2015). The maximum (minimum) value for this variable is 30 (6). *SIZE* is the log value of lagged total assets. *ROA* is pre-tax income, scaled by lagged total assets. *R&D* is research and development expense, scaled by lagged total assets. When *XRD* is missing, we set the value to 0. *CAPITAL* is capital expenditures scaled by lagged total assets. *LEVERAGE* is the sum of long-term debt and long-term debt in current liabilities, scaled by lagged total assets. *INTANG* is intangible assets, scaled by lagged total assets. *PPNE* is gross property, plant and equipment, scaled by lagged total assets. *HELD_PCT* is the percentage of outstanding shares held by institutions (from Thomson-Reuters 13f Holdings). *DACC* is adjusted discretionary accruals based on the performance-adjusted modified cross-sectional Jones model, measured following Frank et al. (2009) and Kothari et al. (2005). *CEOCOMP* is CEO total compensation, scaled by lagged total assets. *STKMIX* is CEO stock-based compensation as a fraction of total compensation. *PRETAXCF* is pretax cash flows, defined as cash flows from operating activities plus taxes paid, scaled by lagged total assets. *# of Directors* is number of directors on the board. *BSIZE* is the log value of the number of directors on the board. *%OUTDIR* is the percentage of independent directors on the board. *# of Audit Committee Mbrs* is the number of audit committee members. *ACSIZE* is the log value of the number of audit committee members. *DEFENDER* is an indicator variable coded 1 if the *STRATEGY* score for firm *i* in year *t* ranges from 6 (the minimum) to 12, 0 otherwise. *PROSPECTOR* is an indicator variable coded 1 if the *STRATEGY* score for firm *i* in year *t* ranges from 24 to 30 (the maximum), 0 otherwise. *NOL* is an indicator variable coded 1 for firm-years with non-missing and non-zero values for tax loss carryforward, 0 otherwise. *FOROP* is an indicator variable coded 1 for firm-years with non-missing and non-zero values for pretax foreign income, 0 otherwise. *100%INDAUD* is an indicator variable coded 1 if the audit committee is composed 100% of independent directors, 0 otherwise. *% Independent Audit Committee Mbrs* is the percentage of independent audit committee members. *#*

of *ACCDIR* is the number of independent accounting experts on the audit committee. A director is defined as an accounting expert if he/she has work experience as a certified public accountant, auditor, CFO, financial comptroller, financial controller, or accounting officer. *%ACCDIR* is the percentage of independent accounting experts on the audit committee. *# of NONACCDIR* is the number of independent non-accounting financial experts on the audit committee. A director is defined as a non-accounting financial expert if he or she does not have work experience as a certified public accountant, auditor, CFO, financial comptroller, financial controller, or accounting officer but does have work experience as an investment banker, financial analyst, or any other financial management role, or experience supervising the preparation of financial statements (e.g., CEO or company president). *%NONACCDIR* is the percentage of independent non-accounting financial experts on the audit committee. See Appendix A for variable definitions.

Table 2=

Correlation Matrix=

%	1=	2=	3=	4=	5=	6=	7=	8=	9=	10=	11=	12=	13=	14=	15=	16=	17=	18=	19=	20=	21=	22=	23=	24=	25=		
1=CASH_ETR	1.000																										
2=BTDF	-0.458	1.000																									
3=PERMDIFF	-0.208	0.538	1.000																								
4=PCDIF	-0.018	0.038	0.068	1.000																							
5=DEFENSE	0.008	0.018	0.008	0.098	1.000																						
6=DEFENSE	0.008	0.028	0.008	0.068	0.018	1.000																					
7=PROSPCTION	-0.018	0.048	0.058	-0.058	-0.058	-0.058	1.000																				
8=SIZE	0.008	-0.008	-0.008	0.658	0.108	0.038	-0.108	1.000																			
9=PROF	-0.098	0.338	0.218	0.048	0.018	0.028	0.028	-0.238	1.000																		
10=PROF	-0.088	0.198	0.308	0.058	0.028	-0.058	0.068	-0.258	0.168	1.000																	
11=CAPITAL	0.008	0.108	-0.028	-0.038	-0.018	0.028	-0.028	-0.108	0.258	-0.088	1.000																
12=LEVERAGE	0.008	-0.018	-0.038	0.108	0.038	0.058	0.028	0.188	-0.108	-0.228	0.088	1.000															
13=INTROS	0.038	-0.038	-0.028	0.038	0.058	0.028	0.038	-0.038	0.068	0.038	-0.128	0.218	1.000														
14=SIZE	0.028	0.038	-0.008	-0.038	0.068	0.138	-0.038	-0.038	0.128	-0.138	0.028	0.198	-0.218	1.000													
15=ROA	-0.018	0.018	0.028	-0.018	0.008	0.038	-0.028	-0.198	0.148	0.068	0.038	-0.018	0.038	0.018	1.000												
16=FOROP	0.038	0.028	0.038	0.218	0.078	0.138	0.008	-0.018	0.128	0.318	-0.038	-0.138	0.228	-0.038	0.128	1.000											
17=PROF_PCF	0.018	-0.038	-0.038	-0.068	0.058	0.028	0.018	-0.148	0.088	0.078	0.048	0.038	0.128	-0.038	0.148	0.148	1.000										
18=DUAL	0.008	0.038	0.008	0.018	-0.018	0.038	0.008	0.028	0.038	-0.018	0.008	0.038	-0.048	0.038	0.008	0.008	-0.038	1.000									
19=LEVERAGE	-0.008	0.138	0.188	-0.338	-0.048	-0.048	0.128	-0.628	0.378	0.318	0.038	-0.168	0.038	-0.018	0.128	0.078	0.108	-0.038	1.000								
20=SIZE	-0.038	0.038	0.038	0.208	0.108	0.058	-0.018	0.218	0.018	0.118	0.038	0.038	0.148	0.038	0.028	0.198	0.168	-0.018	0.138	1.000							
21=PERMDIFF	0.028	0.198	0.188	0.048	0.008	0.028	0.038	-0.308	0.348	0.198	0.338	-0.138	0.078	0.208	0.158	0.118	0.128	0.018	0.378	0.048	1.000						
22=SIZE	0.028	-0.008	-0.008	0.308	0.118	0.058	-0.008	0.508	-0.208	-0.228	-0.108	0.038	-0.048	-0.018	-0.168	-0.028	-0.138	0.048	-0.378	0.148	-0.138	1.000					
23=ROA	0.008	0.048	0.028	0.138	0.318	0.058	-0.028	0.148	-0.028	0.038	0.008	0.028	0.018	0.008	-0.048	0.038	0.108	-0.018	-0.038	0.138	-0.038	0.028	1.000				
24=ROA	0.018	-0.038	-0.018	0.208	0.048	0.068	-0.038	0.338	-0.108	-0.178	-0.018	0.078	-0.008	0.068	-0.108	-0.018	-0.108	0.028	-0.228	0.038	-0.138	0.378	0.168	1.000			
25=UNWINDABLE	0.028	0.018	0.018	0.058	0.368	0.008	-0.018	-0.048	0.048	0.048	-0.038	-0.028	0.018	-0.018	0.028	0.028	0.068	-0.018	0.048	-0.018	0.048	-0.018	0.538	-0.108	1.000		

Notes to Table 2:

Pearson correlation coefficients appear in the lower diagonal. Bold font indicates a statistically significant correlation at the 5% level.

CASH_ETR is cash taxes paid divided by pretax book income. Cash ETRs with negative denominators are deleted. The remaining non-missing ETRs are winsorized (reset) so that the largest observation is equal to 1 and the smallest is equal to 0. This variable is industry-adjusted by subtracting the industry mean (by year and two-digit SIC code). *BTDF* is total book-tax differences, defined as pretax income less estimated taxable income, scaled by lagged assets. Estimated taxable income is the sum of current federal tax expense and current foreign tax expense divided by the top U.S. statutory tax rate. If current federal tax expense is missing, then we calculate it as total tax expense minus deferred tax expense, state income taxes, and current foreign tax expense. This variable is industry-adjusted by subtracting the industry mean (by year and two-digit SIC code). *PERMDIFF* is the difference between total book-tax differences (defined as in *BTDF*) and temporary book-tax

differences, scaled by beginning of the year total assets. Temporary book-tax differences are deferred tax expense divided by the top U.S. statutory tax rate. This variable is industry-adjusted by subtracting the industry mean (by year and two-digit SIC code). *UTB* is the log value of one plus the increase in current uncertain tax positions, industry-adjusted by subtracting the industry mean (by year and two-digit SIC code). *%FEDIR* is the percentage of independent financial experts on the audit committee. *DEFENDER* is an indicator variable coded 1 if the *STRATEGY* score for firm *i* in year *t* ranges from 6 (the minimum) to 12, 0 otherwise. *PROSPECTOR* is an indicator variable coded 1 if the *STRATEGY* score for firm *i* in year *t* ranges from 24 to 30 (the maximum), 0 otherwise. *STRATEGY* is the firm strategy score for firm *i* in year *t*, measured following Bentley et al. (2013) and Higgins et al. (2015). The maximum (minimum) value for this variable is 30 (6). *SIZE* is the log value of lagged total assets. *ROA* is pre-tax income, scaled by lagged total assets. *R&D* is research and development expense, scaled by lagged total assets. When *XRD* is missing, we set the value to 0. *CAPITAL* is capital expenditures scaled by lagged total assets. *LEVERAGE* is the sum of long-term debt and long-term debt in current liabilities, scaled by lagged total assets. *INTANG* is intangible assets, scaled by lagged total assets. *PPNE* is gross property, plant and equipment, scaled by lagged total assets. *NOL* is an indicator variable coded 1 for firm-years with non-missing and non-zero values for tax loss carryforward, 0 otherwise. *FOROP* is an indicator variable coded 1 for firm-years with non-missing and non-zero values for pretax foreign income, 0 otherwise. *HELD_PCT* is the percentage of outstanding shares held by institutions (from Thomson-Reuters 13f Holdings). *DACC* is adjusted discretionary accruals based on the performance-adjusted modified cross-sectional Jones model, measured following Frank et al. (2009) and Kothari et al. (2005). *CEOCOMP* is CEO total compensation, scaled by lagged total assets. *STKMIX* is CEO stock-based compensation as a fraction of total compensation. *PRETAXCF* is pretax cash flows, defined as cash flows from operating activities plus taxes paid, scaled by lagged total assets. *BSIZE* is the log value of the number of directors on the board. *%OUTDIR* is the percentage of independent directors on the board. *ACSIZE* is the log value of the number of audit committee members. *100%INDAUD* is an indicator variable coded 1 if the audit committee is composed 100% of independent directors, 0 otherwise. See Appendix A for variable definitions.

Table 3													
Regression Results													
Financial Expertise on the Audit Committee and Business Strategy													
Full Sample													
	Dependent Variable												
	CASH_ETR			BTD			PERMDIFF			UTB			
Independent Variables	Coeff	t-stat		Coeff	t-stat		Coeff	t-stat		Coeff	t-stat		
<i>Hypothesized Variables</i>													
%FEDIR	0.0052	0.66		-0.0028	-1.22		-0.0030	-1.11		-0.0580	-1.16		
%FEDIR*DEFENDER	-0.0662	-2.92	***	0.0070	1.18		0.0113	1.46		0.3014	2.23	**	
%FEDIR*PROSPECTOR	0.0292	1.16		-0.0171	-1.74	*	-0.0329	-2.56	**	-0.4659	-3.09	***	
DEFENDER	0.0354	2.18	**	-0.0043	-1.05		-0.0103	-1.95	*	-0.1183	-1.28		
PROSPECTOR	-0.0207	-1.26		0.0079	1.25		0.0164	2.02	**	0.1830	1.95	*	
<i>Control Variables</i>													
SIZE	-0.0074	-3.66	***	0.0005	0.81		0.0029	4.23	***	0.5753	37.99	***	
ROA	-0.8446	-16.50	***	0.6555	45.38	***	0.5056	27.05	***	0.0744	0.45		
R&D	-0.3862	-8.09	***	0.0323	1.69	*	0.0601	2.51	**	4.1933	17.74	***	
CAPITAL	-0.0805	-1.63		0.0232	1.26		-0.0503	-2.56	**	0.2829	0.78		
LEVERAGE	-0.0270	-2.87	***	0.0087	2.25	**	0.0081	1.83	*	-0.0408	-0.60		
INTANG	0.0206	2.24	**	0.0046	1.59		0.0030	0.93		0.3864	6.11	***	
PPNE	-0.0105	-1.42		0.0120	5.29	***	0.0096	3.60	***	-0.0785	-1.68	*	
NOL	-0.0052	-1.29		0.0001	0.07		0.0002	0.16		-0.0162	-0.60		
FOROP	0.0225	5.04	***	-0.0017	-1.28		0.0015	0.98		0.2295	8.27	***	
HELD_PCT	-0.0096	-0.95		0.0003	3.97	***	0.0002	3.11	***	-0.3012	-4.76	***	
DACC	0.0013	1.07		0.0000	-0.08		-0.0002	-0.41		-0.0080	-1.18		
CEOCOMP	-0.0038	-4.98	***	-0.0015	-4.71	***	-0.0006	-1.70	*	0.0157	3.70	***	
STKMIX	-0.0028	-0.36		0.0118	5.19	***	0.0048	1.80	*	-0.1244	-2.25	**	
PRETAXCP	0.7084	16.31	***	-0.3005	-19.87	***	-0.1700	-9.47	***	2.0092	10.33	***	
BSIZE	-0.0070	-0.78		0.0021	0.76		-0.0053	-1.79	*	0.2268	4.03	***	
%OUTDIR	0.0047	0.32		0.0032	0.70		-0.0001	-0.02		0.4005	4.12	***	
ACSIZE	0.0174	1.73	*	-0.0128	-4.28	***	-0.0117	-3.51	**	-0.1034	-1.50		
100%INDAUD	0.0089	1.49		0.0022	1.24		0.0025	1.19		0.0899	2.31	**	
N	-9.670			-9.108			-9.086			-6.090			
F-stat	19.08	(p < 0.01)		120.52	(p < 0.01)		58.64	(p < 0.01)		187.53	(p < 0.01)		
Adjusted R-squared	-0.055			-0.544			-0.380			-0.494			

Notes to Table 3:

***, **, and * indicate significance for a two-tailed test at the 1%, 5% and 10% levels, respectively. The reported standard errors are Huber-White robust standard errors.

The results are from estimation of the following model (subscripts suppressed):

$$TaxPlanning = \alpha + \beta_1 \%FEDIR + \beta_2 \%FEDIR * DEFENDER + \beta_3 \%FEDIR * PROSPECTOR + \beta_4 DEFENDER + \beta_5 PROSPECTOR + \gamma Controls + \epsilon$$

TaxPlanning is CASH_ETR, BTD, PERMDIFF, or UTB. CASH_ETR is cash taxes paid divided by pretax book income. Cash ETRs with negative denominators are deleted. The remaining non-missing ETRs are winsorized (reset) so that the largest observation is equal to 1 and the smallest is equal to 0. This variable is industry-adjusted by subtracting the industry mean (by year and two-digit SIC code). BTD is total book-tax differences, defined as pretax income less estimated taxable income, scaled by

lagged assets. Estimated taxable income is the sum of current federal tax expense and current foreign tax expense divided by the top U.S. statutory tax rate. If current federal tax expense is missing, then we calculate it as total tax expense minus deferred tax expense, state income taxes, and current foreign tax expense. This variable is industry-adjusted by subtracting the industry mean (by year and two-digit SIC code). *PERMDIFF* is the difference between total book-tax differences (defined as in *BTD*) and temporary book-tax differences, scaled by beginning of the year total assets. Temporary book-tax differences are deferred tax expense divided by the top U.S. statutory tax rate. This variable is industry-adjusted by subtracting the industry mean (by year and two-digit SIC code). *UTB* is the log value of one plus the increase in current uncertain tax positions, industry-adjusted by subtracting the industry mean (by year and two-digit SIC code). *%FEDIR* is the percentage of independent financial experts on the audit committee. *DEFENDER* is an indicator variable coded 1 if the *STRATEGY* score for firm *i* in year *t* ranges from 6 (the minimum) to 12, 0 otherwise. *PROSPECTOR* is an indicator variable coded 1 if the *STRATEGY* score for firm *i* in year *t* ranges from 24 to 30 (the maximum), 0 otherwise. *STRATEGY* is the firm strategy score for firm *i* in year *t*, measured following Bentley et al. (2013) and Higgins et al. (2015). The maximum (minimum) value for this variable is 30 (6). *Controls* is a vector of control variables that includes the following: *SIZE* is the log value of lagged total assets. *ROA* is pre-tax income, scaled by lagged total assets. *R&D* is research and development expense, scaled by lagged total assets. When *XRD* is missing, we set the value to 0. *CAPITAL* is capital expenditures scaled by lagged total assets. *LEVERAGE* is the sum of long-term debt and long-term debt in current liabilities, scaled by lagged total assets. *INTANG* is intangible assets, scaled by lagged total assets. *PPNE* is gross property, plant and equipment, scaled by lagged total assets. *NOL* is an indicator variable coded 1 for firm-years with non-missing and non-zero values for tax loss carryforward, 0 otherwise. *FOROP* is an indicator variable coded 1 for firm-years with non-missing and non-zero values for pretax foreign income, 0 otherwise. *HELD_PCT* is the percentage of outstanding shares held by institutions (from Thomson-Reuters 13f Holdings). *DACC* is adjusted discretionary accruals based on the performance-adjusted modified cross-sectional Jones model, measured following Frank et al. (2009) and Kothari et al. (2005). *CEOCOMP* is CEO total compensation, scaled by lagged total assets. *STKMIX* is CEO stock-based compensation as a fraction of total compensation. *PRETAXCF* is pretax cash flows, defined as cash flows from operating activities plus taxes paid, scaled by lagged total assets. *BSIZE* is the log value of the number of directors on the board. *%OUTDIR* is the percentage of independent directors on the board. *ACSIZE* is the log value of the number of audit committee members. *100%INDAUD* is an indicator variable coded 1 if the audit committee is composed 100% of independent directors, 0 otherwise. See Appendix A for variable definitions.

Independent Variables	Dependent Variables							
	CASH_ETR		BTD		PERMDIFF		UTB	
	Coeff.	t-stat	Coeff.	t-stat	Coeff.	t-stat	Coeff.	t-stat
Hypothesized Variables								
%FEDIR	-0.0652	-2.34	0.0009	0.15	0.0064	0.81	0.1180	0.93
%FEDIR*PROSPECTOR	0.0908	2.83	-0.0260	-2.51	-0.0445	-3.26	-0.5602	-2.93
PROSPECTOR	-0.0497	-2.15	0.0182	2.60	0.0343	3.87	0.1945	1.51
Control Variables								
SIZE	-0.0091	-1.84	0.0020	1.45	0.0054	2.86	0.7263	23.92
ROA	-0.7907	-6.25	0.7332	23.57	0.6170	17.30	0.3785	1.12
R&D	-0.5442	-4.42	0.0332	0.81	0.0819	1.65	2.5116	4.56
CAPITAL	0.0273	0.22	-0.0404	-1.03	-0.1282	-2.49	-1.3734	-2.05
LEVERAGE	-0.0292	-1.23	-0.0010	-0.11	-0.0109	-0.91	0.0087	0.07
INTANG	0.0487	2.17	0.0046	0.56	-0.0041	-0.42	0.1193	0.95
PPNE	-0.0079	-0.44	0.0200	3.85	0.0210	3.05	-0.3289	-3.37
NOL	-0.0114	-1.16	0.0008	0.30	-0.0048	-1.37	-0.1239	-2.20
FOROP	0.0225	2.02	-0.0058	-1.74	-0.0016	-0.39	0.2199	3.54
HELD_PCT	-0.0412	-1.62	0.0294	3.60	0.0269	2.55	-0.5617	-3.85
DACC	0.0014	0.66	-0.0004	-0.54	-0.0005	-0.55	0.0077	0.79
CEOCOMP	-0.0051	-2.73	-0.0010	-1.27	-0.0008	-0.74	0.0526	5.25
STKMX	-0.0158	-0.79	0.0001	0.02	-0.0015	-0.20	-0.3474	-2.72
PRETAXCF	0.6338	5.83	-0.2744	-7.87	-0.1587	-4.48	1.2645	3.08
BSIZE	0.0010	0.04	0.0115	1.74	-0.0035	-0.49	-0.0426	-0.35
%OUTDIR	0.0243	0.69	0.0246	2.35	0.0095	0.66	0.4667	2.27
ACSIZE	0.0053	0.21	-0.0138	-1.91	-0.0140	-1.72	-0.0334	-0.23
100%INDAUD	0.0149	1.03	0.0007	0.18	-0.0006	-0.14	0.1898	2.31
N	-1.621		-1.610		-1.608		-1.162	
F-stat	5.30 (p < 0.01)		43.69 (p < 0.01)		23.19 (p < 0.01)		76.04 (p < 0.01)	
Adjusted R-squared	-0.068		-0.661		-0.520		-0.597	

Notes to Table 4:

***, **, and * indicate significance for a two-tailed test at the 1%, 5% and 10% levels, respectively. The reported standard errors are Huber-White robust standard errors.

The results are from estimation of the following model (subscripts suppressed):

$$TaxPlanning = \alpha + \beta_1 \%FEDIR + \beta_2 \%FEDIR * PROSPECTOR + \beta_3 PROSPECTOR + \gamma Controls + \epsilon$$

TaxPlanning is CASH_ETR, BTD, PERMDIFF, or UTB. CASH_ETR is cash taxes paid divided by pretax book income. Cash ETRs with negative denominators are deleted. The remaining non-missing ETRs are winsorized (reset) so that the largest observation is equal to 1 and the smallest is equal to 0. This variable is industry-adjusted by subtracting the industry mean (by year and two-digit SIC code). BTD is total book-tax differences, defined as pretax income less estimated taxable income, scaled by lagged assets. Estimated taxable income is the sum of current federal tax expense and current foreign tax expense divided by the top U.S. statutory tax rate. If current federal tax expense is missing, then we calculate it as total tax expense minus deferred tax expense, state income taxes,

and current foreign tax expense. This variable is industry-adjusted by subtracting the industry mean (by year and two-digit SIC code). *PERMDIFF* is the difference between total book-tax differences (defined as in *BTD*) and temporary book-tax differences, scaled by beginning of the year total assets. Temporary book-tax differences are deferred tax expense divided by the top U.S. statutory tax rate. This variable is industry-adjusted by subtracting the industry mean (by year and two-digit SIC code). *UTB* is the log value of one plus the increase in current uncertain tax positions, industry-adjusted by subtracting the industry mean (by year and two-digit SIC code). *%FEDIR* is the percentage of independent financial experts on the audit committee. *PROSPECTOR* is an indicator variable coded 1 if the *STRATEGY* score for firm *i* in year *t* ranges from 24 to 30 (the maximum), 0 otherwise. *STRATEGY* is the firm strategy score for firm *i* in year *t*, measured following Bentley et al. (2013) and Higgins et al. (2015). The maximum (minimum) value for this variable is 30 (6). *Controls* is a vector of control variables that includes the following: *SIZE* is the log value of lagged total assets. *ROA* is pre-tax income, scaled by lagged total assets. *R&D* is research and development expense, scaled by lagged total assets. When *XRD* is missing, we set the value to 0. *CAPITAL* is capital expenditures scaled by lagged total assets. *LEVERAGE* is the sum of long-term debt and long-term debt in current liabilities, scaled by lagged total assets. *INTANG* is intangible assets, scaled by lagged total assets. *PPNE* is gross property, plant and equipment, scaled by lagged total assets. *NOL* is an indicator variable coded 1 for firm-years with non-missing and non-zero values for tax loss carryforward, 0 otherwise. *FOROP* is an indicator variable coded 1 for firm-years with non-missing and non-zero values for pretax foreign income, 0 otherwise. *HELD_PCT* is the percentage of outstanding shares held by institutions (from Thomson-Reuters 13f Holdings). *DACC* is adjusted discretionary accruals based on the performance-adjusted modified cross-sectional Jones model, measured following Frank et al. (2009) and Kothari et al. (2005). *CEOCOMP* is CEO total compensation, scaled by lagged total assets. *STKMIX* is CEO stock-based compensation as a fraction of total compensation. *PRETAXCF* is pretax cash flows, defined as cash flows from operating activities plus taxes paid, scaled by lagged total assets. *BSIZE* is the log value of the number of directors on the board. *%OUTDIR* is the percentage of independent directors on the board. *ACSIZE* is the log value of the number of audit committee members. *100%INDAUD* is an indicator variable coded 1 if the audit committee is composed 100% of independent directors, 0 otherwise. See Appendix A for variable definitions.

Table 5													
Regression Results													
Accounting and Non-Accounting Financial Expertise on the Audit Committee and Business Strategy													
Defenders and Prospectors Only													
Independent Variables	Dependent Variable												
	CASH_ETR			BTD			PERMDIFF			UTB			
Hypothesized Variable	Coeff.	t-stat		Coeff.	t-stat		Coeff.	t-stat		Coeff.	t-stat		
%ACCDIR	-0.0681	-1.80	**	0.0018	0.18		-0.0138	-1.10		-0.1373	-0.66		
%NONACCDIR	-0.0681	-2.89	***	0.0022	0.35		0.0137	1.72	*	0.1784	1.34		
%ACCDIR*PROSPECTOR	0.0797	1.42		-0.0184	-1.07		-0.0175	-0.72		-0.1649	-0.52		
%NONACCDIR*PROSPECTOR	0.1018	2.91	***	-0.0304	-2.80	***	-0.0529	-3.94	***	-0.7107	-3.52	***	
PROSPECTOR	-0.0533	-2.30	**	0.0191	2.72	***	0.0344	3.88	***	0.2009	1.55		
Controls	--Yes			--Yes			--Yes			--Yes			
N	-1,621			-1,610			-1,608			-1,162			
F-stat	5.33 (p < 0.01)			40.10 (p < 0.01)			21.51 (p < 0.01)			70.92 (p < 0.01)			
Adjusted-R-squared	-0.067			-0.661			-0.521			-0.599			

Notes to Table 5:

***, **, and * indicate significance for a two-tailed test at the 1%, 5% and 10% levels, respectively. The reported standard errors are Huber-White robust standard errors.

The results are from estimation of the following model (subscripts suppressed):

$$TaxPlanning = \alpha + \beta_1\%ACCDIR + \beta_2\%NONACCDIR + \beta_3\%ACCDIR*PROSPECTOR + \beta_4\%NONACCDIR*PROSPECTOR + \beta_5PROSPECTOR + \gamma Controls + \varepsilon$$

TaxPlanning is *CASH_ETR*, *BTD*, *PERMDIFF*, or *UTB*. *CASH_ETR* is cash taxes paid divided by pretax book income. Cash ETRs with negative denominators are deleted. The remaining non-missing ETRs are winsorized (reset) so that the largest observation is equal to 1 and the smallest is equal to 0. This variable is industry-adjusted by subtracting the industry mean (by year and two-digit SIC code). *BTD* is total book-tax differences, defined as pretax income less estimated taxable income, scaled by lagged assets. Estimated taxable income is the sum of current federal tax expense and current foreign tax expense divided by the top U.S. statutory tax rate. If current federal tax expense is missing, then we calculate it as total tax expense minus deferred tax expense, state income taxes,

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and current foreign tax expense. This variable is industry-adjusted by subtracting the industry mean (by year and two-digit SIC code). *PERMDIFF* is the difference between total book-tax differences (defined as in *BTD*) and temporary book-tax differences, scaled by beginning of the year total assets. Temporary book-tax differences are deferred tax expense divided by the top U.S. statutory tax rate. This variable is industry-adjusted by subtracting the industry mean (by year and two-digit SIC code). *UTB* is the log value of one plus the increase in current uncertain tax positions, industry-adjusted by subtracting the industry mean (by year and two-digit SIC code). *%ACCDIR* is the percentage of independent accounting experts on the audit committee. A director is defined as an accounting expert if he/she has work experience as a certified public accountant, auditor, CFO, financial comptroller, financial controller, or accounting officer. *%NONACCDIR* is the percentage of independent non-accounting financial experts on the audit committee. A director is defined as a non-accounting financial expert if he or she does not have work experience as a certified public accountant, auditor, CFO, financial comptroller, financial controller, or accounting officer but does have work experience as an investment banker, financial analyst, or any other financial management role, or experience supervising the preparation of financial statements (e.g., CEO or company president). *PROSPECTOR* is an indicator variable coded 1 if the *STRATEGY* score for firm *i* in year *t* ranges from 24 to 30 (the maximum), 0 otherwise. *STRATEGY* is the firm strategy score for firm *i* in year *t*, measured following Bentley et al. (2013) and Higgins et al. (2015). The maximum (minimum) value for this variable is 30 (6). *Controls* is a vector of control variables (untabulated). See Appendix A for variable definitions.