



Dual entrenchment and tax management: Classified boards and family firms[☆]



Jared A. Moore^{a,*}, SangHyun Suh^b, Edward M. Werner^c

^a College of Business, Oregon State University, 443 Austin Hall, Corvallis, OR 97331, United States

^b Manning School of Business, University of Massachusetts Lowell, 218 Pasteur Hall, One University Avenue, Lowell, MA 01854, United States

^c School of Business, Rutgers, The State University of New Jersey, 215 Business and Science Building, 227 Penn Street, Camden, NJ 08102, United States

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ABSTRACT

This study examines whether and how multiple managerial entrenchment devices within a firm, specifically the structure of the board of directors and family firm status, interact to influence tax management. Using a sample of 4,000 U.S. public firm-year observations covering the period 1999–2013, we find that the classified board structure and family firm status are both negatively related with tax avoidance. However, accounting for the interaction between board structure and family firm status, we also find that the negative associations between both entrenchment measures and tax management apply *only* where the other entrenchment mechanism is absent. In further analysis, we find that higher levels of monitoring by institutional investors neutralize the interaction between the presence of a classified board and family firm status. Our evidence highlights that governance/monitoring mechanisms can interact in complex ways, including an offsetting effect between potentially redundant dual-level entrenchment mechanisms, to influence tax management behavior.

1. Introduction

Factors associated with the tax management practices of corporations have been the subject of a stream of literature that has developed rapidly since the early 2000's, motivated largely by high-profile instances of aggressive corporate tax avoidance reported in the popular press,¹ government reports lamenting lost revenues due to such practices,² and government actions aimed at curbing them.³ A branch of this literature explores corporate tax management in an agency theory context (e.g., Desai & Dharmapala, 2006), and studies have recently begun to consider the impact of firm characteristics associated with managerial entrenchment on tax management activity (e.g.,

Badertscher, Katz, & Rego, 2013; Chen, Chen, Chen, & Shevlin, 2010; McGuire, Wang, & Wilson, 2014; Minnick & Noga, 2010). We contribute to this literature by investigating the interplay between multiple managerial entrenchment devices coexisting within the firm (i.e., dual entrenchment) as determinants of tax management. Specifically, we examine whether the classified board and family ownership structures, as measures of entrenchment, influence tax management activity differently where both are present within the firm.⁴

Firms must consider the tradeoff between the marginal benefits and costs of acting in a more aggressive manner when deciding on tax transactions. These are very important decisions as the benefits, which relate to the increased cash flows from managing the payment of taxes,

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* Corresponding author.

E-mail addresses: jared.moore@bus.oregonstate.edu (J.A. Moore), SangHyun_Suh@uml.edu (S. Suh), edward.werner@rutgers.edu (E.M. Werner).

¹ Examples include the hundreds of billions of dollars shifted by U.S. corporations to tax haven countries recently detailed in the Panama Papers (Mindock & Sirota, 2016) and the prominent tax shelter scandals around the turn of the century (e.g., Enron).

² Examples include 1) a 2016 report by the United States Government Accountability Office, 2016 which states that 42.3% of all large U.S. corporations and 19.5% of profitable large U.S. corporations reported no tax liability in 2012 and 2) a 2016 report by the Internal Revenue Service, 2016 (IRS) in which it estimates that total corporate underreporting of income tax over the 2008–2010 period was approximately 41 billion dollars annually on average.

³ Examples include the Department of the Treasury's 2014 and 2016 implementation of new rules to curb corporate inversions, the 2010 implementation of Schedule UTP to the federal corporate income tax return (for large companies, a detailed listing of uncertain tax positions), the 2004 implementation of Schedule M-3 to the federal corporate income tax return (for large companies, a detailed breakdown of the differences between financial statement and taxable income), the 2004 amendment to IRC §6111 requiring tax advisors to disclose information about tax shelter transactions, and the 2003–2004 congressional hearings on tax shelters.

⁴ Following previous research, for the purposes of this study, we define tax management broadly to represent the extent to which firm managers engage in tax planning to manage the reduction of tax-related cash outflows, tax liabilities, and/or tax expense. As discussed later, we focus on the tax avoidance aspect of overall tax management in our tests, operationalizing avoidance as the levels and volatility of cash effective tax rates (Dyreng et al., 2008; Hanlon & Heitzman, 2010; Minnick & Noga, 2010).

can be significant. On the other hand, potentially consequential costs include the transaction costs directly associated with making tax decisions, penalties assessed on such behavior by the tax authorities, the reputational and political costs that may result, and agency costs related to rent extraction made possible by more complex and obscure transactions (Desai & Dharmapala, 2006). Given the intricacies of decision making and the variability in agency and other issues as potentially significant tradeoff components, firms with different characteristics that can impact these issues may commit to different levels of activity when making decisions in the tax policy context. Further interest in examining this area is initiated by researchers who call for additional investigations into agency concern effects on or deeper firm-level determinants of tax management strategy (e.g., Hanlon & Heitzman, 2010; Shackelford & Shevlin, 2001).

Among studies that consider a governance perspective, consistent with agency theory, a few investigate how firm characteristics that enable strong managerial entrenchment (e.g., board and ownership structure) impact tax management. With respect to board structure, Minnick and Noga (2010) explore the roles of compensation and corporate governance in tax management. Their results are consistent with expectations within a typical agency conflict perspective. That is, they find that compensation packages and certain corporate governance mechanisms have a significant effect on tax management efforts and focus. Particularly, they document that firms with classified boards engage in lower levels of tax management, which is consistent with the notion that such firms exhibit lazy tendencies as a result of the entrenchment of directors and managers. This evidence is also consistent with other studies which find that the classified board structure can entrench management, potentially leading to lower performance and value (e.g., Bebchuk & Cohen, 2005; Faleye, 2007).

Several recent studies provide evidence that ownership structures which facilitate managerial entrenchment, such as dual class ownership (McGuire et al., 2014) and concentrated insider ownership (Badertscher et al., 2013), are also associated with lower levels of tax management. In examining family firms, Chen et al. (2010) explicitly consider whether the unique agency conflict that exists between family shareholders and minority shareholders differentially impacts a firm's level of tax management. The authors posit that family owners have higher stakes in terms of the benefits and costs associated with tax management behavior relative to non-family owners. Further, agency issues, which include price discounting imposed by minority external shareholders who anticipate rent extraction or other entrenchment consequences by family shareholders, may impose additional tax management-related costs. Their main finding that family firms exhibit less tax management behavior, therefore, suggests that family owners weight the costs of tax management, particularly price discounting from perceived entrenchment, more heavily than the benefits derived from the resultant tax savings.⁵

We investigate the interaction between board structure and family firm status (i.e., dual entrenchment) as determinants of tax management, focusing on the avoidance dimension of tax management. In particular, we regress measures of tax avoidance (cash effective tax rates and variability in cash effective tax rates) on two entrenchment indicator variables identifying firms with classified vs. unitary boards and family vs. non-family firms, along with an interaction between them. Our results using a sample of 4000 firm-year observations covering the period 1999–2013 suggest that accounting for the interaction between two significant measures of entrenchment within a firm is important. Specifically, we find that the classified board structure and family firm status are both negatively related with tax avoidance,

consistent with the evidence in Minnick and Noga (2010) and Chen et al. (2010), respectively. However, we also find that the negative associations between both of our entrenchment measures and tax management apply only where the other entrenchment mechanism is not present. That is, our evidence indicates that multiple strong entrenchment mechanisms that exist concurrently can negate each other's effects completely with respect to tax management, rather than strengthening each other or leaving one redundant. These results hold for our measures of both levels and riskiness of tax avoidance.

In additional analysis, based on the documented general resistance of institutional owners to entrenchment mechanisms, notably the classified board structure (Bebchuk, 2003; Klausner, 2003), we examine whether high levels of institutional ownership impact our main findings. Results indicate that monitoring by institutional investors neutralizes the interaction between board structure and family firm status, which shows that internal and external governance/monitoring mechanisms can interact in complex ways in this setting.

Our research is similar to Minnick and Noga (2010) and Chen et al. (2010) in that we explore corporate tax management in the board structure and ownership settings. However, our study differs from theirs on a few important dimensions. First, we characterize the classified board and family ownership structures as independent measures of managerial entrenchment in an agency context and introduce the notion of interactive effects between them where they coexist within a firm. Accordingly, we address new and interesting questions involving the presence of potentially redundant dual-level entrenchment strategies on tax management behavior. Second, we expand on the Chen et al. (2010) finding of an offsetting interaction between family firm status and institutional ownership. By considering the monitoring role of institutional investors in neutralizing multiple dimensions of entrenchment and the interaction between them, we explore a more complex interplay between external and internal governance/monitoring mechanisms. Finally, unlike Minnick and Noga (2010) and Chen et al. (2010), which focus solely on levels of tax avoidance, we examine these entrenchment effects relative to both levels and riskiness of tax avoidance activity (e.g., Dyreng, Hanlon, & Maydew, 2016; Guenther, Matsunaga, & Williams, 2017; Hutchens & Rego, 2015).

This paper contributes to the literature in several ways. First, we extend the literature regarding the Desai and Dharmapala (2006) agency theory view of tax avoidance by examining the effects of board structure and ownership structure on tax management strategy (e.g., Badertscher et al., 2013; Chen et al., 2010; McGuire et al., 2014; Minnick & Noga, 2010). Specifically, we show that, on average, where two levels of managerial entrenchment coexist within a firm (e.g., a classified board in a family firm), the interactive dual-level entrenchment effect can completely negate the individual influences of both entrenchment devices on managers' behavior. To our knowledge, the finding of such interactive effects between multiple entrenchment devices concurrently existing within a firm is new to the literature. Further, this study expands our understanding of how different governance/monitoring mechanisms combine to influence firm decisions by examining board structure, ownership structure, and institutional ownership, as well as interactive relationships between these factors, in a tax planning context. We highlight the interplay between internal (board structure and family firm status) and external (institutions) governance/monitoring factors on corporate tax management. In addition, this study utilizes the interface between the legal framework of a firm's organizational and board structures and accounting via tax management behavior. In this way, our evidence also informs policy-makers concerned with how firms' governance/monitoring characteristics interact (in an agency setting) to influence corporate tax reporting behavior.

The remainder of this paper is organized as follows: Section 2 provides a review of relevant prior literature and develops our hypothesis. Section 3 discusses the methodology and data used in this study. Section 4 presents the results of our analyses, and Section 5 concludes.

⁵ Steijvers and Niskanen (2014) also examine the impact of family firm status on tax management using survey data from private family and non-family firms in Finland between 2000 and 2005. Consistent with Chen et al. (2010), they find that private family firms engage in less tax management activity than private non-family firms.

2. Prior literature and hypothesis development

Although tax planning has crucial repercussions for the firm as well as its stakeholders, our knowledge about why firms vary in the nature and extent of their tax management activities is limited. In recognition of this void, previous studies call for additional research on tax planning choices within an agency theory framework (e.g., Desai & Dharmapala, 2006; Hanlon & Heitzman, 2010; Scholes, Wolfson, Erickson, Maydew, & Shevlin, 2005). Extending recent research on managerial entrenchment mechanisms in a tax setting (e.g., Badertscher et al., 2013; Chen et al., 2010; McGuire et al., 2014 and Minnick & Noga, 2010), this study investigates how board structure and family firm status, as measures of entrenchment, interact to impact tax management strategy.

2.1. Agency theory and tax management activity

Agency theory typically focuses on the conflict between managers and shareholders that motivates self-serving managers to extract private benefits at shareholder expense (Jensen & Meckling, 1976). Consideration has also been given to the conflict between large and small shareholders that drives large shareholders to expropriate wealth at minority shareholders' expense (Shleifer & Vishny, 1986). More recent applications of agency theory suggest that tax management is not simply a costless transfer of wealth from the government to shareholders, but potentially results in agency costs, increased transaction costs, authority-assessed penalties, and increased political and/or reputational costs (Crocker & Slemrod, 2005).

Desai and Dharmapala (2006) develop a framework for examining tax management decisions around the typical principal-agent context in which opportunity for rent extraction by self-serving managers with insufficient owner supervision exists. They argue that transaction complexity and obscurity hinder oversight and embolden agents making decisions about tax avoidance and managerial diversion activities. They hypothesize that these decisions can be complementary in that increases in tax avoidance activity induce greater managerial diversion for the purpose of extracting rents and vice versa. Consistent with this hypothesis, they find empirically that stock-based compensation (i.e., managerial incentive alignment) is negatively associated with tax management activities for firms with weaker corporate governance.

Several studies extend Desai and Dharmapala's (2006) agency framework to examine the direct and indirect associations between tax management and corporate governance. For example, Lanis and Richardson (2011) and Richardson, Taylor, and Lanis (2013) find that stronger internal monitoring environments reduce the likelihood of aggressive tax management activities for Australian firms. Similarly, Khurana and Moser (2013) provide evidence that external monitoring by long-term institutional investors discourages tax management activities, especially for firms with weaker corporate governance. In a market setting, Hanlon and Slemrod (2009), Desai and Dharmapala (2009), and Wilson (2009) all find that stock price reactions to firm-level tax management are more favorable for firms with stronger corporate governance. These findings are all consistent with the view that tax management and managerial opportunism are complementary and that corporate governance devices can mitigate related agency issues.

2.2. Agency theory and entrenchment

While agency theory posits that corporate governance mechanisms can mitigate suboptimal managerial behavior, entrenchment theory suggests that such mechanisms are not always sufficient to align managers' interests with those of shareholders. Specifically, Fama and Jensen (1983) propose that managers can become entrenched when they own a significant proportion of their firm's stock and command enough voting power to defend themselves against hostile takeovers. In

such cases, managers can insulate themselves from the governance mechanisms of the corporate takeover market. Jensen and Ruback (1983) further argue that poor managers, who are difficult to replace because of entrenchment, could be the costliest agency issue.

Entrenching themselves using manager-specific investments, managers can make it costly for shareholders to replace them, which facilitates rent extraction and attainment of discretionary authority (Shleifer & Vishny, 1989). Deviations from optimal decision making can occur when entrenched management acts in a self-serving manner rather than in the interest of shareholders. In essence, highly entrenched managers enjoy power and security in the organization as well as a greater capacity to circumvent the internal and external monitoring and disciplining mechanisms of the board, shareholders, and the market. Most studies investigating entrenchment and firm performance agree that the relationship is nonlinear: at some ownership levels, the entrenchment effect dominates the incentive-alignment effect to reduce efficiency and firm value (Gugler, Mueller, & Yurtoglu, 2008; McConnell & Servaes, 1990; Morck, Shleifer, & Vishny, 1988; Stulz, 1988). Consistent with a negative association between managerial entrenchment and firm value, Bertrand and Mullainathan (2003) pose the quiet life hypothesis, suggesting that entrenched managers tend to be less ambitious and avoid arduous decision making, risky investments, and empire-building efforts.

2.2.1. Agency theory and entrenchment: classified boards

The board of directors is an important monitoring mechanism within a firm that can also contribute to managerial entrenchment. Specifically, the board's structure (i.e., classified vs. unitary) can have significant monitoring and entrenchment implications because it determines the frequency with which directors are elected. U.S. firms can choose between a unitary structure, in which the entire board of directors is elected each year at the shareholder meeting, and a classified structure, in which director elections are staggered and directors serve multi-year terms between elections (Gartman & Isaacs, 1998).⁶ The longer terms of directors on classified boards may impact their choices in guiding firm management and decision making.

Classified boards are popular because they mitigate hostile takeovers and proxy contests meant to supplant incumbent board members. Their staggered elections create board stability, which can enable managerial entrenchment, increasing principal-agent conflict and reducing firm value (Bebchuk & Cohen, 2005). In fact, Cremers and Nair (2005) show that anti-takeover provisions are correlated with managerial entrenchment and that the classified board provision is the most significant of all of them. In recent years, institutional investors and larger shareholders have rejected charter amendments to establish classified boards (Klausner, 2003). They have also supported a movement to declassify boards, suggesting that the change would improve the corporate governance environment (Bebchuk, 2003). Their argument is that the unitary board structure, with annual elections of all directors, mitigates the entrenchment effect and provides greater accountability to shareholders (Koppes, Ganske, & Haag, 1999).

Empirical evidence on whether board classification obstructs governance of corporate operations is mixed. For example, Zhao and Chen (2008) find that firms with classified boards are less likely to manage earnings, which is consistent with the quiet life hypothesis. Similarly, Bebchuk and Cohen (2005) and Faleye (2007) find that the classified board structure reduces firm value and decreases director accountability to shareholders by entrenching management. Further, Bebchuk, Cohen, and Ferrell (2009) show that a six-factor "entrenchment" index, which includes classified board status as a factor, exhibits the most significant negative association with firm value and long-run returns among components of the Gompers, Ishii, and Metrick (2003) G-index.

⁶ When choosing a classified board structure, firms only elect a sub-class (typically, one third) annually, with the next sub-class to be elected at the subsequent annual meeting.

Consistent with the market's recognition of entrenchment costs associated with classified boards, Guo, Kruse, and Nohel (2008) find a positive market reaction to board declassification.

On the other hand, Koppes et al. (1999) and Bradley, Chen, Dallas, and Snyderwine (2007) suggest that firms can use board classification as part of an overall high-quality corporate governance environment. For instance, Zhao, Davis, and Zhou (2008) provide evidence of a positive association between the classified board structure and earnings informativeness. Further, Johnson, Karpoff, and Yi (2015) find that classified boards increase firm value when the board is used to protect and maintain long-term business relationships. In contrast with Guo et al. (2008), Ge, Tanlu, and Zhang (2016) find that declassifying the board is associated with performance deterioration and no improvement in market values.

Overall, extant research supports both sides of the classified board structure argument, despite the broadly held view that classified boards should facilitate managerial entrenchment by reducing the likelihood of disciplinary takeover action. In a tax setting, Minnick and Noga (2010) examine the associations between tax management activity and various governance characteristics, considering the classified board structure as a proxy for managerial entrenchment. They find that firms with classified boards are less active in tax avoidance, which suggests that entrenched managers lack the motivation to engage in a higher degree of tax management to reduce tax expense and taxes paid, consistent with the quiet life hypothesis.

2.2.2. Agency theory and entrenchment: family firms

The family firm ownership structure can also facilitate entrenchment. Whereas public corporations are traditionally characterized by separate ownership and controlling functions, family firms generally involve founding family members who both own the firm and manage its operations (Berle & Means, 1932; Chandler, 1977). A number of studies explore the extent to which merging ownership and controlling functions within the organizational form might lead to conflicts and other behavioral divergences (e.g., Anderson & Reeb, 2003; Choi, Zahra, Yoshikawa, & Han, 2015; Kuan, Li, & Chu, 2011; Miller & LeBreton-Miller, 2005).

One fundamental reason why family compared to non-family firms may operate and make decisions differently is related to the similarity between family firms and the Franco-German “insider” versus Anglo-American “outsider” governance system, particularly with respect to market illiquidity due to the controlling blocks held by family owners (Crama, Leruth, Renneboog, & Urbain, 2003). While traditional agency governance mechanisms such as incentive compensation schemes, board characteristics, and external monitoring instruments serve their expected purpose (Anderson & Reeb, 2004; Braun & Sharma, 2007; Chrisman, Chua, Kellermanns, & Chang, 2007), Crama et al. (2003) suggest that family firms encounter unique agency conflicts, such as entrenchment and asymmetric altruism among family members, that may require a special governance approach (Corbetta & Salvato, 2004). In fact, Madison, Holt, Kellermanns, and Ranft (2016) suggest that the traditional agency view is important but incomplete when considering family firms. Based on their literature review, they conclude that unique family firm attributes, such as non-economic family-related goals, can result in operating behavior and governance requirements that are quite different from those prescribed by traditional agency theory. Further, the complex dynamics within family firms, and the potential conflicts associated with them, are inherently difficult to monitor.

The agency theory framework has been widely applied in investigations comparing family firm versus non-family firm behavior. Consistent with the view that entrenchment in family firms creates value, studies show that family firms perform better overall (e.g., Anderson & Reeb, 2003), under particular conditions (e.g., Andres, 2008; Villalonga & Amit, 2006), and when appropriately monitored (e.g., Filatotchev, Lien, & Piesse, 2005; Wright, Ferris, Sarin, & Awasthi, 1996). However, agency theory also supports the argument that family

firms underperform or impair earnings quality relative to non-family firms (e.g., Dharwadkar, George, & Brandes, 2000; Jensen, 1994), suggesting that controlling family managers can entrench themselves to the detriment of minority shareholders (Morck, Wolfenzon, & Yeung, 2005; Peng & Jiang, 2010).⁷ To the extent that such agency issues have the potential to increase capital costs, they could impact the behavior of family firms (Burkart, Panunzi, & Shleifer, 2003; Claessens, Djankov, Fan, & Lang, 2002; McConaughy, 1999).

Regarding agency perspectives of tax management activities, Chen et al. (2010) find that family firms engage in lower levels of tax avoidance than non-family firms. This finding implies that family firms differentially weight the marginal costs and benefits associated with tax management relative to non-family firms and reflects the considerable agency conflicts between family and external minority shareholders. That is, family owners have large and under-diversified equity positions relative to minority shareholders, with greater exposure to the price discount pertaining to external shareholders' perceptions of family owner entrenchment (Chen et al., 2010). Therefore, the agency costs related to tax management may have a larger impact on family shareholder wealth than manager wealth in non-family firms.

2.3. Classified boards and family firms: a dual entrenchment effect?

We are not aware of any previous research that investigates the interactive effects of multiple entrenchment devices, particularly in the tax domain. Therefore, we focus our examination on how board structure and family firm status, two significant mechanisms for entrenchment, interact to impact tax management behavior. Given the potentially redundant entrenchment effects inherent in the classified board structure and in family firm ownership, both of which are effective takeover defense mechanisms, the sheer incidence of family firms that use the classified board structure is notable. Remarkably, nearly half of family firms in our sample use board classification, which is statistically equivalent to its use in non-family firms (roughly 46% in both partitions; discussed in further detail later). Therefore, the interaction between these two seemingly duplicative entrenchment devices may be particularly important.

Although theory provides a framework for analyzing the associations between these individual entrenchment mechanisms and various firm decisions (e.g., tax management), predicting the direction of their interaction is not straightforward. On the one hand, the combined entrenchment effects of family firms and classified boards could have a positive impact on the overall entity. This is because the classified board structure may protect and insulate independent directors from controlling family shareholders, allowing them to achieve their fiduciary duty to promote the interests of all (including minority) shareholders. On the other hand, based on the traditional owner-manager agency conflict, family shareholder interests may be aligned with minority shareholder interests. In these instances, even in family firms, the classified board structure may enable the entrenchment of managers whose interests diverge from controlling and minority shareholders, which can have a negative impact on the overall entity (Bebchuk & Cohen, 2005). Ultimately, how classified boards affect managerial behavior in a family firm environment is an interesting question that we can explore empirically.

While previous research (to our knowledge) does not explore the possible interaction of classified boards and family firm status, particularly as combined entrenchment effects, prior evidence does suggest

⁷ Controlling family members can expropriate wealth from the minority shareholders using such techniques as pyramid building, propping, and tunneling (Cheung, Rau, & Stouraitis, 2006; Morck & Yeung, 2003). Additionally, controlling family executives are able to obscure firm performance to decrease the likelihood of minority shareholder intervention and dilution of their control, which maximizes family utility functions at the expense of the minority shareholders (Bebchuk, Kraakman, & Triantis, 2000; Claessens et al., 2002; Johnson, Boone, Breach, & Friedman, 2000).

an interplay between board characteristics (e.g., independence) and family firm status in the contexts of earnings management and overall performance (e.g., Anderson & Reeb, 2004; Jaggi, Leung, & Gul, 2009; Prencipe & Bar-Yosef, 2011). Moreover, in the sensitivity tests of his main results linking classified boards with lower firm value, Faleye (2007) interacts the classified board structure with several measures representing takeover defenses. One these takeover defenses is dual-class stock⁸; he finds that firms with both classified boards and dual-class stock have a significantly lower firm value reduction than firms with classified boards alone. He does not address this interaction in his overall conclusion or explore the managerial entrenchment explanation related to it. Nonetheless, this result suggests that combining two powerful entrenchment mechanisms could have a surprising impact, even reducing the arguably negative entrenchment effect that exists when only one is present.

Taken as a whole, theory and prior evidence suggest that multiple coexisting entrenchment devices within the same firm should interact in determining the level of tax management behavior. We explore the interactive effects of the classified board and family ownership structures as determinants of tax management activity. However, given the deficiency of previous research examining the combined effects of multiple entrenchment devices, we have no a priori expectation regarding the direction of this interaction. Accordingly, we propose the following non-directional hypothesis:

Hypothesis 1. The presence of multiple entrenchment mechanisms within a firm (i.e., dual entrenchment) reduces or exacerbates the impact of an individual entrenchment device in determining tax management.

3. Methodology

3.1. Empirical model

We estimate a generalized linear regression model (GLM) with firm and year fixed effects to examine how our entrenchment variables (classified board structure and family firm status) interact as determinants of the avoidance aspect of tax management, specified as follows:

$$TaxAvoid_{it} = \alpha + \beta_1 ClsfdBOD_{it} + \beta_2 Family_{it} + \beta_3 ClsfdBOD * Family_{it} + \beta_4 Size_{it} + \beta_5 Debt_{it} + \beta_6 Loss_{it} + \beta_7 SGrwth_{it} + \beta_8 MTB_{it} + \beta_9 \%OSDir_{it} + \beta_{10} InstOwn_{it} + \gamma_i + \gamma_t + \varepsilon_{it} \tag{1}$$

where:

- $TaxAvoid_{it}$ = the level and riskiness of firm i 's tax avoidance activity in year t measured as $CETR$ and $Var(CETR)$, respectively,
- $CETR_{it}$ = the cumulative ratio of cash taxes paid over pretax income for firm i over the five-year period from year $t-4$ to year t ,
- $Var(CETR)_{it}$ = the standard deviation of the annual ratios of cash taxes paid over pretax income for firm i over the five-year period from year $t-4$ to year t ,
- $ClsfdBOD_{it}$ = an indicator variable coded 1 if firm i has a classified board of directors in year t , and 0 otherwise,
- $Family_{it}$ = an indicator variable coded 1 if firm i is a family firm in year t , and 0 otherwise, where a family firm is defined as a member of the S & P 500 where founders or decedents continue to hold positions in top management, on the board of directors, or are among the company's largest stockholders

⁸ Dual-class stock as an entrenchment tool relies on having controlling shareholders in place to be effective, similar to family firm ownership.

- according to Weber and Lavelle (2003),
- $Size_{it}$ = the natural log of total assets for firm i in year t ,
- $Debt_{it}$ = long-term debt for firm i in year t scaled by prior year total assets,
- $Loss_{it}$ = an indicator variable coded 1 if income before extraordinary items for firm i in year t is less than zero, and 0 otherwise,
- $SGrwth_{it}$ = the change in net sales from year $t-1$ to year t scaled by prior year net sales,
- MTB_{it} = the product of closing share price and common shares outstanding scaled by total assets for firm i at the end of year t ,
- $\%OSDir_{it}$ = the ratio of the number of outside directors on the board over the total number of directors on the board for firm i in year t , and
- $InstOwn_{it}$ = the percentage of firm i 's total shares outstanding held by institutional owners in year t .

$TaxAvoid$ represents tax management in our model, and we capture two dimensions, both taken from prior literature. The first dimension is the level of tax avoidance, measured with $CETR$, which represents the long-term cash effective tax rate used by Dyreng, Hanlon, and Maydew (2008) and Dyreng, Hanlon, and Maydew (2010). We limit this variable to values between zero and one, and we code observations with a negative denominator as missing. The second dimension is the riskiness of tax avoidance activities, measured as $Var(CETR)$, which represents variability in a firm's tax outcomes (Gallemore & Labro, 2015; Guenther et al., 2017). Our main independent variables of interest are $ClsfdBOD$ (β_1), $Family$ (β_2), and $ClsfdBOD * Family$ (β_3). Consistent with Minnick and Noga (2010), Chen et al. (2010), and other literature generally linking entrenchment with lower levels of risk-taking by managers (e.g., Bertrand & Mullainathan, 2003), we expect the coefficients on $ClsfdBOD$ and $Family$ to be positive (negative) where tax avoidance activity is represented by $CETR$ ($Var(CETR)$). However, we expect the effects of both to be influenced to some extent by the presence of the other (i.e., dual entrenchment); accordingly, a significant value for β_3 in the $CETR$ and $Var(CETR)$ models would support our hypothesis.

We include several control variables shown in prior literature to be associated with tax avoidance (e.g., Badertscher et al., 2013; Chen et al., 2010; Frank, Lynch, & Rego, 2009; Guenther et al., 2017; Gupta & Newberry, 1997; Hanlon, Mills, & Slemrod, 2007; Higgins, Omer, & Phillips, 2015; Khurana & Moser, 2013; McGuire, Omer, & Wang, 2012; McGuire et al., 2014; Minnick & Noga, 2010). $Size$, $Debt$, $Loss$, $SGrwth$, and MTB control for various incentives and/or opportunities to engage in tax avoidance activity. Some prior studies argue that larger firms may enjoy economies of scale with regard to tax planning, implying a positive association between firm size and tax avoidance. Conversely, political costs (also captured by $Size$) may provide a disincentive for larger firms to engage in aggressive tax avoidance. $Debt$ controls for leverage. Graham and Tucker (2006) find a negative association between leverage and tax sheltering, consistent with tax sheltering being used as an alternate "tax shield" to debt. However, leverage also results in interest deductions, which have the direct effect of lowering cash taxes paid. We include $Loss$ in the model to account for the arguably reduced incentive for loss firms to engage in aggressive tax planning. $SGrwth$ and MTB proxy for a firm's growth opportunities as higher growth firms arguably have added incentive to engage in tax planning activities.

$\%OSDir$ and $InstOwn$ control for monitoring-related governance dimensions that have been reported as determinants of tax avoidance in prior studies. Lanis and Richardson (2011) show a negative association between (noncompliant) aggressive tax avoidance and the percentage of the board comprised of independent directors, whereas Minnick and Noga (2010) find no significant association between board independence and tax avoidance (more broadly). Such mixed results in prior literature likely result from a dependency of the association

Table 1
Sample composition.

	Firm-year observations
Firm-year observations in the Standard & Poor's Compustat database for fiscal years (1999–2013)	7500
Less	
Observations relating to firms in financial services (SIC 60–69) industries	-914
Observations missing board composition and director data from the RiskMetrics database	-1449
Observations missing institutional ownership data from the Thomson Financial 13f database	-214
Observations missing data for other regression variables	-923
Final sample	4000

between board characteristics and tax avoidance on the riskiness of the tax avoidance activity (e.g., Robinson, Xue, & Zhang, 2012) and firm characteristics (e.g., business strategy; Hsu, Moore, & Neubaum, 2016). We include *InstOwn* to account for the influence of institutional owners as monitors of the firm. Khurana and Moser (2013) find that the presence of institutional owners with a long-term investment horizon is negatively related to tax avoidance, while Chen et al. (2010) find mixed results with respect to the association between institutional ownership and tax avoidance.

3.2. Data and descriptive statistics

The empirical tests described above require data on board characteristics, institutional ownership, and financial statement information. The sample selection process, summarized in Table 1, begins with all firm-year observations for S & P 500 companies (as of November 10, 2003) in the Compustat database during the period 1999–2013.⁹ We then drop observations relating to firms in financial services industries (SIC 60–69). We further reduce the sample by removing observations for which there are no matching data in either the RiskMetrics (board characteristics) or Thomson Financial 13f (institutional ownership) databases. Finally, we omit observations without complete data necessary to compute our regression variables. The final sample consists of 4000 firm-year observations.

Panel A of Table 2 shows descriptive statistics for the full sample. Our tax avoidance variables, *CETR* and *Var(CETR)*, have mean (median) values of 0.24 (0.24) and 0.04 (0.03), respectively. About a third of our sample firms (32%) are categorized as family firms, and almost half (46%) have classified boards. The descriptive statistics also suggest that independent directors make up over 75% of the board for the average firm in our sample and that over 55% of the average firm's stock is owned by institutions. Further, our sample firms are profitable on average, with only 7% showing a loss (before extraordinary items). Panel B of Table 2 shows the sample distribution by year, including the percentage of the sample comprised of family firms and firms with classified boards. The number of observations generally trends upward over the sample period, while the use of the classified board structure generally trends downward (as a percentage of the total sample). Family firms make up close to a third of the sample throughout the sample period, although the proportion falls slightly below 30% in the last few sample years. Pearson correlations for the variables in our regression models (untabulated) reveal that the highest correlation coefficient is -0.34 between *Debt* and *MTB*, indicating that multicollinearity is not a problem in our data.

Panels C and D of Table 2 present means and medians of the

⁹ We base our sample on the S & P 500 as of November 10, 2003 because, as noted in our model description, we use a *BusinessWeek* article from that date to identify family vs. non-family firms (Weber & Lavelle, 2003). This article focuses on the S & P 500.

regression variables across values of our entrenchment measures. Specifically, Panel C (Panel D) shows univariate comparisons of the descriptive statistics for the regression variables between firms with and without a classified board (family and non-family firms). In Panel C, several variables show significantly different means (parametric *t*-test) and/or medians (nonparametric *z*-test) between the 0 and 1 values of *ClsfdBOD*. Notably, *CETR* is significantly higher for firms with a classified board than for those without one, whereas the descriptive statistics for *Var(CETR)* are indistinguishable between the two groups. It is also worth mentioning that about 32% of firms with and without a classified board are also family firms (i.e., no difference between the two groups). Panel D similarly shows significant differences between family and non-family firms in terms of the mean and/or median values of several of the regression variables. With respect to the tax avoidance variables, *CETR* is significantly higher for family firms than for non-family firms. Additionally, while the means for *Var(CETR)* are statistically the same for both groups, the median value is lower for family firms than for non-family firms ($p < 0.01$). Also notable are the statistics for *ClsfdBOD*, which show that the incidence of the classified board structure is no different between family and non-family firms.

Overall, these univariate results suggest that 1) entrenched firms differ from non-entrenched firms on several dimensions, 2) there is considerable overlap between firms with a classified board structure and family firms, and 3) entrenchment is generally associated with lower levels of tax avoidance, consistent with recent prior research (e.g., Chen et al., 2010; Minnick & Noga, 2010). The overlap noted in 2) is interesting in that it reveals a surprisingly high incidence of dual entrenchment in our sample firms, reinforcing the focus in our multivariate tests on potential interactive effects between multiple coexisting entrenchment mechanisms.

4. Empirical results

4.1. Hypothesis tests

Table 3 reports the results for Eq. (1). The results for our two entrenchment variables are consistent with prior research and with each other. Specifically, *ClsfdBOD* and *Family* are both positive and highly significant ($p < 0.01$) in the *CETR* model and at least marginally significantly negative ($p < 0.10$) in the *Var(CETR)* model. These findings indicate that both the classified board structure and family firm status are associated with lower tax avoidance, in terms of both levels and riskiness, in the absence of the other form of entrenchment. However, *ClsfdBOD * Family* is negative (positive) and significant at the 0.01 (0.05) level in the *CETR* (*Var(CETR)*) model, suggesting that family firm status and classified boards appear to cancel each other out to some degree with respect to their effects on tax avoidance activity where both are present. In fact, the net of the coefficients on *ClsfdBOD* and *ClsfdBOD * Family* in the *CETR* (-0.016) and *Var(CETR)* (0.002) models are both of the opposite sign to that on *ClsfdBOD*, and the same is true of the combined (net) coefficients on *Family* and *ClsfdBOD * Family* of -0.013 and 0.004. This result suggests that the negative association between tax avoidance and having a classified board disappears if the company is also a family firm, and vice versa, supporting our hypothesis of interactive effects between multiple coexisting entrenchment mechanisms.¹⁰

Among the control variables, all but *Debt* and *SGrowth* are statistically significant in both models. *Size*, *MTB*, and *InstOwn* are all significantly

¹⁰ A potential issue with our findings is that our sample period includes the Great Recession that resulted from the global financial crisis in the late 2000's. To ensure that our results are not driven by the Great Recession, we re-estimate Eq. (1) excluding observations in 2008 and 2009 from the sample (according to the National Bureau of Economic Research (NBER), the Great Recession spanned the period from December 2007 to June 2009). Our inferences are unaffected by the omission of these years from the sample.

Table 2
Descriptive statistics.

Panel A: Full sample (N = 4000)					
Variable	Mean	Std. Dev.	Min	Median	Max
Continuous					
CETR	0.241	0.128	0	0.242	1
Var(CETR)	0.043	0.049	0	0.029	0.447
Size	9.134	1.208	6.764	9.072	13.309
Debt	0.215	0.158	0	0.200	0.799
SGrwth	0.077	0.179	-0.421	0.066	0.874
MTB	1.527	1.323	0.022	1.142	7.429
%OSDir	0.764	0.141	0.100	0.800	0.929
InstOwn	56.127	16.549	23.552	59.748	85.767
Categorical (% w/ value of 1)					
ClsfdBOD	46.18%				
Family	32.33%				
Loss	6.93%				

Panel B: Sample distribution by year					
Year	Total sample	ClsfdBOD = 1	% of sample	Family = 1	% of sample
1999	182	106	58.24%	57	31.32%
2000	208	121	58.17%	77	37.02%
2001	213	124	58.22%	82	38.50%
2002	245	147	60.00%	96	39.18%
2003	250	153	61.20%	95	38.00%
2004	266	151	56.77%	101	37.97%
2005	264	150	56.82%	91	34.47%
2006	269	136	50.56%	90	33.46%
2007	238	112	47.06%	83	34.87%
2008	290	123	42.41%	89	30.69%
2009	300	125	41.67%	87	29.00%
2010	301	116	38.54%	87	28.90%
2011	313	108	34.50%	88	28.12%
2012	326	95	29.14%	84	25.77%
2013	335	80	23.88%	86	25.67%
Total	4000	1847	46.18%	1293	32.33%

Panel C: Univariate statistics across values of ClsfdBOD						
Variable	ClsfdBOD = 0		ClsfdBOD = 1		Difference (ClsfdBOD 0–1)	
	Mean	Median	Mean	Median	t-test	z-test
Continuous						
CETR	0.236	0.235	0.247	0.248	-2.68***	-2.55**
Var(CETR)	0.044	0.029	0.042	0.029	1.44	0.55
Size	9.281	9.196	8.963	8.952	8.53***	7.06***
Debt	0.212	0.195	0.220	0.207	-1.65*	-2.46**
SGrwth	0.071	0.059	0.084	0.075	-2.31**	-3.84***
MTB	1.548	1.179	1.503	1.082	1.07	1.68*
%OSDIR	0.769	0.800	0.758	0.800	2.43**	3.03***
InstOwn	56.006	59.456	56.269	59.944	-0.50	0.19
Categorical						
Family	32.23%		32.43%		-0.13	
Loss	6.13%		7.85%		-2.12	

Panel D: Univariate statistics across values of Family						
Variable	Family = 0		Family = 1		Difference (Family 0–1)	
	Mean	Median	Mean	Median	t-test	z-test
Continuous						
CETR	0.238	0.237	0.247	0.252	-2.02**	-2.83***
Var(CETR)	0.044	0.030	0.042	0.027	1.49	3.20***
Size	9.240	9.229	8.913	8.780	8.41***	7.81***
Debt	0.235	0.225	0.174	0.154	11.59***	12.72***
SGrwth	0.073	0.062	0.087	0.076	-2.34**	-3.64***

(continued on next page)

Table 2 (continued)

Panel D: Univariate statistics across values of Family							
Variable	Family = 0		Family = 1		Difference (Family 0–1)		
	Mean	Median	Mean	Median	t-test	z-test	
MTB	1.385	1.029	1.825	1.396	-9.23***	-10.27***	
%OSDIR	0.790	0.818	0.710	0.727	16.30***	16.61***	
InstOwn	56.406	60.231	55.544	59.115	1.59	2.69***	
Categorical							
ClsfdBOD		46.10%		46.33%		-0.13	
Loss		6.54%		7.73%		-1.36	

CETR is the cumulative ratio of cash taxes paid over pretax income for firm *i* over the five-year period from year *t-4* to year *t*; *Var(CETR)* is the standard deviation of the annual ratios of cash taxes paid over pretax income for firm *i* over the five-year period from year *t-4* to year *t*; *Size* is the natural log of total assets for firm *i* in year *t*; *Debt* is long-term debt for firm *i* in year *t* scaled by prior year total assets; *SGrwth* is the change in net sales for firm *i* from year *t-1* to year *t* scaled by prior year net sales; *MTB* is the product of closing share price and common shares outstanding scaled by total assets for firm *i* at the end of year *t*; *%OSDir* is the ratio of the number of outside directors on the board over the total number of directors on the board for firm *i* in year *t*; *InstOwn* is the percentage of firm *i*'s total shares outstanding held by institutional owners in year *t*; *ClsfdBOD* is an indicator variable coded 1 if firm *i* has a classified board of directors in year *t*, and 0 otherwise; *Family* is an indicator variable coded 1 if firm *i* is a family firm in year *t*, and 0 otherwise; and *Loss* is an indicator variable coded 1 if income before extraordinary items for firm *i* in year *t* is less than zero, and 0 otherwise.

Table 3
GLM regression results.

Independent variables	Dependent variable			
	CETR		Var(CETR)	
	Coeff.	t-stat	Coeff.	t-stat
Intercept	0.4112	17.01***	0.0780	8.47***
ClsfdBOD	0.0187	3.84***	-0.0061	-3.27***
Family	0.0215	3.61***	-0.0043	-1.88*
ClsfdBOD * Family	-0.0348	-4.10***	0.0078	2.42**
Size	-0.0113	-5.71***	-0.0028	-3.70***
Debt	-0.0144	-1.06	-0.0146	-2.81***
Loss	0.0282	3.49***	0.0276	8.97***
SGrwth	-0.0779	-6.68***	0.0021	0.47
MTB	-0.0075	-4.20***	-0.0063	-9.17***
%OSDir	-0.0267	-1.71*	0.0183	3.08***
InstOwn	-0.0687	-5.24***	-0.0170	-3.40***
N		4000		4000
F-statistic	1364.59 (p < 0.001)		322.69 (p < 0.001)	
Year fixed effects		Yes		Yes
Firm fixed effects		Yes		Yes
R ²		0.0418		0.0549

***, **, and * indicate significance based on a two-tailed test at the 1%, 5% and 10% levels, respectively. The dependent variables are *CETR* and *Var(CETR)*. *CETR* is the cumulative ratio of cash taxes paid over pretax income for firm *i* over the five-year period from year *t-4* to year *t*; *Var(CETR)* is the standard deviation of the annual ratios of cash taxes paid over pretax income for firm *i* over the five-year period from year *t-4* to year *t*; *ClsfdBOD* is an indicator variable coded 1 if firm *i* has a classified board of directors in year *t*, and 0 otherwise; *Family* is an indicator variable coded 1 if firm *i* is a family firm in year *t*, and 0 otherwise; *Size* is the natural log of total assets for firm *i* in year *t*; *Debt* is long-term debt for firm *i* in year *t* scaled by prior year total assets; *Loss* is an indicator variable coded 1 if income before extraordinary items for firm *i* in year *t* is less than zero, and 0 otherwise; *SGrwth* is the change in net sales for firm *i* from year *t-1* to year *t* scaled by prior year net sales; *MTB* is the product of closing share price and common shares outstanding scaled by total assets for firm *i* at the end of year *t*; *%OSDir* is the ratio of the number of outside directors on the board over the total number of directors on the board for firm *i* in year *t*; and *InstOwn* is the percentage of firm *i*'s total shares outstanding held by institutional owners in year *t*.

negative ($p < 0.01$) in both the *CETR* model and the *Var(CETR)* model, suggesting that firm size, growth potential, and institutional ownership are all positively related to the level of tax avoidance but negatively related to risky tax avoidance activity. Conversely, *Loss* is significantly positive ($p < 0.01$) in both models, implying that incurring accounting losses is associated lower levels of tax avoidance (as one might expect) but is also associated with a higher propensity toward engaging in risky tax avoidance. *%OSDir* is marginally significantly negative in the *CETR* model ($p < 0.10$) and highly significantly positive in the *Var(CETR)*

model ($p < 0.01$), suggesting that, on average, board independence is associated with more tax avoidance activity in terms of both levels and riskiness. Consistent with the result for *MTB*, *SGrwth* is negative and highly significant ($p < 0.01$) in the *CETR* model, although it is not significant in the *Var(CETR)* model. Finally, *Debt* is negative and significant in the *Var(CETR)* model (as one might expect) but is not significant in the *CETR* model.

4.2. Supplemental analyses

4.2.1. Controlling for endogeneity

A possible issue with our main analysis is the potentially endogenous relation between tax management and board structure. In particular, [Wintoki, Linck, and Netter \(2012\)](#) argue that the associations between a firm's chosen governance attributes and its other observable characteristics are likely to be dynamic, constituting a source of endogeneity. That is, a firm's actions/outcomes in one period (e.g., performance) may affect its actions in subsequent periods (e.g., governance-related choices), which in turn affect future actions/outcomes (e.g., performance). In our context, endogeneity issues, including those stemming from these dynamic associations, could result in biased coefficients on *ClsfdBOD*. To address these concerns, we re-perform the [Table 3](#) analyses using a system GMM estimator following [Wintoki et al. \(2012\)](#) and [Minnick and Noga \(2010\)](#).

The results of this test are reported in [Table 4](#). Our system GMM model incorporates the first two lags of the applicable dependent variable and invokes instruments from *t-3* to *t-5* based on [Roodman \(2009\)](#).¹¹ The model also continues to control for year fixed effects. The results for our variables of interest are qualitatively identical to those reported in [Table 3](#) in all cases. Most importantly, consistent with our main findings, both *ClsfdBOD* and *Family* are significantly positive (negative) in the *CETR* (*VarCETR*) model, and the interaction between the two, *ClsfdBOD * Family*, is significantly negative (positive). Results for the control variables are generally consistent with, albeit weaker than, those reported in [Table 3](#).

Following [Wintoki et al. \(2012\)](#) and [Minnick and Noga \(2010\)](#), we report the results of several tests of exogeneity with respect to our model and instruments. The AR(1) and AR(2) tests look for first-order and second-order correlation in the first-differenced residuals based on [Arellano and Bond \(1991\)](#). It is common and expected that the AR(1) test result may be significant, but a significant AR(2) test result would indicate second-order serial correlation and thus potentially

¹¹ Due to the variable lags required for the estimation of the system GMM model, our sample size is reduced to 3129 for this test.

Table 4
System GMM regression results.

Independent variables	Dependent variable			
	CETR		Var(CETR)	
	Coeff.	t-stat	Coeff.	t-stat
Intercept	-0.1049	-0.87	0.1682	3.31***
ClfsdBOD	0.0377	2.53**	-0.0177	-3.09***
Family	0.0244	3.01***	-0.0153	-3.59***
ClfsdBOD * Family	-0.0497	-2.91***	0.0209	2.98***
Size	0.0096	1.16	-0.0094	-2.74***
Debt	0.0337	0.54	-0.0036	-0.15
Loss	0.0709	1.65*	0.0120	0.87
SGrwth	0.0113	0.13	-0.0691	-2.56**
MTB	0.0020	0.31	-0.0046	-1.79*
%OSDir	-0.0146	-0.21	-0.0402	-1.57
InstOwn	0.0210	0.97	-0.0237	-2.28**
CETR _{t-1}	0.8217	4.74***		
CETR _{t-2}	0.1903	0.93		
Var(CETR) _{t-1}			1.0331	8.16***
Var(CETR) _{t-2}			-0.3985	-2.35**
N		3129		3129
Year fixed effects		Yes		Yes
AR(1) Test		0.11		0.01
AR(2) Test		0.18		0.98
Hansen Test		0.28		0.17
Difference in Hansen				
GMM instruments for levels		0.64		0.55
IV		0.49		0.74

***, **, and * indicate significance based on a two-tailed test at the 1%, 5% and 10% levels, respectively. The reported t-statistics are based on Windmeijer (2005) corrected robust standard errors. The statistics for the AR(1), AR(2), Hansen, and difference in Hansen tests are p-values. The dependent variables are CETR and Var(CETR). CETR is the cumulative ratio of cash taxes paid over pretax income for firm *i* over the five-year period from year *t-4* to year *t*; Var(CETR) is the standard deviation of the annual ratios of cash taxes paid over pretax income for firm *i* over the five-year period from year *t-4* to year *t*; ClfsdBOD is an indicator variable coded 1 if firm *i* has a classified board of directors in year *t*, and 0 otherwise; Family is an indicator variable coded 1 if firm *i* is a family firm in year *t*, and 0 otherwise; Size is the natural log of total assets for firm *i* in year *t*; Debt is long-term debt for firm *i* in year *t* scaled by prior year total assets; Loss is an indicator variable coded 1 if income before extraordinary items for firm *i* in year *t* is less than zero, and 0 otherwise; SGrwth is the change in net sales for firm *i* from year *t-1* to year *t* scaled by prior year net sales; MTB is the product of closing share price and common shares outstanding scaled by total assets for firm *i* at the end of year *t*; %OSDir is the ratio of the number of outside directors on the board over the total number of directors on the board for firm *i* in year *t*; InstOwn is the percentage of firm *i*'s total shares outstanding held by institutional owners in year *t*.

inconsistent GMM estimates (Arellano & Bond, 1991; Wintoki et al., 2012). Our system GMM model yields *p*-values for the AR(1) and AR(2) tests of 0.011 (0.01) and 0.18 (0.98), respectively, in the CETR (Var(CETR)) model, suggesting no autocorrelation in the first-differenced residuals. Regarding the validity and exogeneity of our instruments, we perform two sets of tests. The first is a Hansen J test of over-identification, which yields (insignificant) *p*-values of 0.28 and 0.17 for the CETR and Var(CETR) models, respectively. Finally, we perform difference-in-Hansen tests of exogeneity of our instruments (both GMM instruments for levels and IV). None of these test results is significant; the lowest *p*-value is 0.49 for the difference in Hansen (IV) test in the CETR model. Overall, these findings indicate 1) that the instruments and specification in our system GMM model are appropriate and 2) that the validity of our main results is not threatened by endogeneity between board structure and tax management.

4.2.2. The effects of strong external monitoring

Our main results provide evidence that multiple managerial entrenchment devices within a company can interact (i.e., offset one another) to influence tax management decisions. Our regression model controls for the monitoring influence of institutional owners but does

not address the possible interaction between institutional ownership and managerial entrenchment, particularly the dual entrenchment effect. As previously discussed, institutional investors have actively resisted entrenchment mechanisms, specifically the classified board structure, in recent years (Bebchuk, 2003; Klausner, 2003; Koppes et al., 1999). Further, recent studies find that high institutional ownership offsets the effects of entrenchment reflected in the Gompers et al. (2003) G-index (Khurana & Moser, 2013) and family firm status (Chen et al., 2010) in the context of tax management. This prior evidence suggests that institutional owners intervene to counter the effects of a single entrenchment mechanism, but it remains unclear what impact (if any) external monitoring has on how multiple entrenchment mechanisms within a firm interact with each other. To test whether the dual entrenchment effect in our main results is impacted by the level of institutional ownership, we first convert InstOwn into an indicator variable (InstOwn75) identifying firms with values of InstOwn in the highest quartile of the sample distribution. We then estimate Eq. (1) separately for each value of InstOwn75, omitting InstOwn.¹²

Table 5 reports the results for this test. For each of our tax avoidance measures, the first column shows the results for the part of our sample with high levels of institutional ownership (i.e., InstOwn75 = 1), and the second column shows the results for the rest of the sample. The findings for our managerial entrenchment variables (i.e., ClfsdBOD and Family) are consistent with those reported in Table 3 for firms without high levels of institutional ownership but are mixed for the high institutional ownership group. Specifically, ClfsdBOD is positive (negative) and significant at the 0.01 level in both the CETR and Var(CETR) models for the subsample where InstOwn75 = 0, consistent with the findings reported in Table 3, but is significant (positive; *p* < 0.05) only in the CETR model for the high institutional ownership group. Similarly, Family is positive (negative) and significant at least at the 0.05 level in the CETR (Var(CETR)) model where InstOwn75 = 0, but is not significant in either model where InstOwn75 = 1. Across both tax avoidance measures, the interaction between ClfsdBOD and Family is significant only where InstOwn75 = 0. Specifically, consistent with the Table 3 results, ClfsdBOD * Family is negative (positive) and significant at the 0.01 level in the CETR (Var(CETR)) model where InstOwn75 = 0 but is not significant in either model where InstOwn75 = 1. These results suggest that in the presence of monitoring by institutional investors, the interaction between the use of a classified board and family firm status disappears with regard to tax avoidance activity.

4.3. Summary

To summarize our results, we find that managerial entrenchment mechanisms (specifically, classified board structure and family firm status) are associated with less tax avoidance, in terms of both levels and riskiness, consistent with prior studies (e.g., Badertscher et al., 2013; Chen et al., 2010; McGuire et al., 2014; Minnick & Noga, 2010). However, we also find an offsetting dual entrenchment effect whereby neither entrenchment mechanism is associated with tax avoidance if the other is also present in the firm. Further, we find that strong external monitoring by institutional investors generally neutralizes the effects of managerial entrenchment, including the interaction between multiple coexisting entrenchment mechanisms. To our knowledge, the finding that concurrently existing entrenchment devices within a firm can offset one another's effects is new to the literature. Overall, our evidence highlights a complex interplay between different dimensions of a firm's governance/monitoring environment in influencing managers' decisions, specifically tax management.

¹² We repeat this test using the top quintile of the distribution of InstOwn as the cutoff for "high institutional ownership," and our inferences are unaffected by this change.

Table 5
GLM regression results: by level of institutional ownership.

Independent variables	Dependent variable							
	CETR				Var(CETR)			
	InstOwn75 = 1		InstOwn75 = 0		InstOwn75 = 1		InstOwn75 = 0	
	Coeff.	t-stat	Coeff.	t-stat	Coeff.	t-stat	Coeff.	t-stat
Intercept	0.1727	3.14***	0.3896	16.46***	0.0539	2.77***	0.0677	7.28***
ClfsdBOD	0.0202	2.13**	0.0186	3.30***	0.0013	0.40	-0.0089	-4.01***
Family	-0.0009	-0.07	0.0280	4.12***	-0.0012	-0.27	-0.0055	-2.05**
ClfsdBOD * Family	-0.0134	-0.70	-0.0420	-4.44***	-0.0083	-1.23	0.0120	3.23***
Size	0.0153	2.95***	-0.0124	-6.08***	-0.0020	-1.06	-0.0022	-2.78***
Debt	-0.0065	-0.25	-0.0194	-1.21	-0.0175	-1.91*	-0.0137	-2.18**
Loss	0.0726	4.99***	-0.0009	-0.09	0.0275	5.34***	0.0265	6.96***
SGrwth	-0.1375	-5.55***	-0.0637	-4.86***	-0.0236	-2.69***	0.0092	1.78*
MTB	-0.0085	-2.08**	-0.0055	-2.77***	-0.0069	-4.77***	-0.0059	-7.55***
%OSDir	-0.0664	-1.74*	-0.0364	-2.18**	0.0254	1.88*	0.0135	2.07**
N		1003		2997		1003		2997
F-statistic	372.01 (p < 0.001)		1157.03 (p < 0.001)		101.78 (p < 0.001)		257.01 (p < 0.001)	
Year fixed effects	Yes		Yes		Yes		Yes	
Firm fixed effects	Yes		Yes		Yes		Yes	
R ²	0.1113		0.0359		0.0967		0.0470	

***, **, and * indicate significance based on a two-tailed test at the 1%, 5% and 10% levels, respectively. The dependent variables are *CETR* and *Var(CETR)*. *CETR* is the cumulative ratio of cash taxes paid over pretax income for firm *i* over the five-year period from year *t-4* to year *t*; *Var(CETR)* is the standard deviation of the annual ratios of cash taxes paid over pretax income for firm *i* over the five-year period from year *t-4* to year *t*; *ClfsdBOD* is an indicator variable coded 1 if firm *i* has a classified board of directors in year *t*, and 0 otherwise; *Family* is an indicator variable coded 1 if firm *i* is a family firm in year *t*, and 0 otherwise; *Size* is the natural log of total assets for firm *i* in year *t*; *Debt* is long-term debt for firm *i* in year *t* scaled by prior year total assets; *Loss* is an indicator variable coded 1 if income before extraordinary items for firm *i* in year *t* is less than zero, and 0 otherwise; *SGrwth* is the change in net sales for firm *i* from year *t-1* to year *t* scaled by prior year net sales; *MTB* is the product of closing share price and common shares outstanding scaled by total assets for firm *i* at the end of year *t*; *%OSDir* is the ratio of the number of outside directors on the board over the total number of directors on the board for firm *i* in year *t*; and *InstOwn75* is an indicator variable coded 1 if the percentage of firm *i*'s total shares outstanding held by institutions in year *t* is in the highest quartile of the sample distribution, and 0 otherwise.

5. Concluding remarks

This study examines whether and how the structure of the board of directors and family firm status interact as entrenchment devices to influence tax management behavior. Using a sample of 4000 firm-year observations covering the period 1999–2013, we find that the classified board structure and family firm status are both negatively related with tax avoidance, consistent with the evidence in Minnick and Noga (2010) and Chen et al. (2010), respectively. However, accounting for the interaction between board structure and family firm status, we also find that the negative associations between both of our entrenchment measures and tax management apply *only* where the other entrenchment mechanism is absent. In further analysis, we examine whether the presence of high levels of institutional ownership impacts our main findings. Results indicate that higher levels of monitoring by institutional investors neutralize the interaction between the presence of a classified board and family firm status.

Our main findings indicate that multiple strong entrenchment mechanisms that exist concurrently (e.g., classified boards and family firm status) can negate each other's effects completely with respect to tax management, rather than strengthening each other or rendering one redundant. Consequently, the results of our supplemental analysis are particularly important since they indicate that for firms with entrenched management, i.e., those firms for which institutional investors are most likely to actively scrutinize operations, strong external monitoring appears to overpower any individual and/or dual entrenchment effects. While maintaining consistency with both the main findings of this paper and findings from Chen et al. (2010), Table 5), we provide new evidence regarding how an array of a firm's governance/monitoring features (e.g., board structure, ownership structure, and institutional ownership) can interact in a complex manner to influence tax planning behavior.

Our study contributes to the literature regarding the agency theory view of tax avoidance by addressing new and interesting questions involving the presence of potentially redundant dual-level entrenchment

strategies on corporate tax management behavior. The evidence in this study expands our understanding of how different governance/monitoring mechanisms combine to influence tax planning by examining board structure, ownership structure, and institutional ownership, as well as interactive relationships between these factors. Future studies can explore potential interactions between other entrenchment and/or governance mechanisms within a firm as determinants of tax management. In addition, this study utilizes the interface between the legal framework of a firm's organizational and board structures and accounting via tax management behavior. In this way, our evidence also informs policymakers concerned with how firms' governance/monitoring characteristics interact (in an agency setting) to influence corporate tax reporting behavior.

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Dr. Jared A. Moore is an Associate Professor of Accounting at Oregon State University. His research interests include the interaction between tax and financial reporting, federal and state tax policy issues, including the role of taxes in corporate business decisions, tax avoidance, and earnings management/manipulation. His work is published in academic

journals including *Journal of the American Taxation Association*, *National Tax Journal*, and *Advances in Accounting*.

Dr. SangHyun Suh is an Associate Professor of Accounting at University of Massachusetts Lowell. His research interests include board structure (board classification and board overlap), family and institutional ownership, accounting conservatism, executive compensation. He has published in *Strategic Management Journal*, *Journal of Accounting, Auditing and Finance*, *Family Business Review*, *Asia-Pacific Journal of Accounting and Economics*, and others.

Dr. Edward M. Werner is an Assistant Professor of Accounting at Rutgers, The State University of New Jersey. His research interests include the role of financial accounting information and taxes in valuation and decision making, managerial discretion, analysts' forecasts, and accounting for pensions. He has published in academic journals including *The Journal of the American Taxation Association*, *Advances in Accounting*, *Asia-Pacific Journal of Accounting and Economics*, and *Review of Accounting and Finance*.