

# **An Empirical Study of the Impact of Board of Director Composition on Corporate Tax Aggressiveness**

## **Abstract**

Our study empirically tests whether board of director composition affects corporate tax aggressiveness. Logit regression results for a choice-based sample of 32 corporations (16 tax aggressive corporations and 16 non-tax aggressive corporations) indicate that the inclusion of a higher proportion of outside members on the board of directors reduces the likelihood of tax aggressiveness. We also find that the existence of an audit committee does not significantly affect the incidence of tax aggressiveness. Finally, additional logit regression results indicate that as the average number of directorships in other corporations held by outside directors increases, the likelihood of tax aggressiveness decreases.

**Keywords:** Board of director composition; audit committees; corporate governance; corporate tax aggressiveness.

## **1. Introduction**

Taxes are a motivating factor in many corporate decisions. In fact, managerial actions designed solely to minimize corporate taxes through tax aggressive activities<sup>1</sup> are becoming an increasingly common feature of the corporate landscape in many countries around the world.<sup>2</sup> Does tax aggressiveness enhance shareholder interests? Taxes represent a significant operating cost to a corporation and its shareholders, and it might be possible that tax aggressiveness is desired by shareholders to improve corporate value (Desai and Dharmapala, 2008). However, this argument ignores the potential non-tax costs that may be incurred through tax aggressive activities (Scholes et al., 2005), particularly those arising from agency problems involving the hidden actions of managers (Desai and Dharmapala, 2006). To determine an optimal level of tax aggressiveness, corporations must trade-off the marginal benefits of managing taxes against the marginal costs. The marginal benefits include greater tax savings for the corporation, whereas the marginal costs include potential tax penalties imposed by the tax administration,

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<sup>1</sup> Consistent with previous work (see e.g., Frank et al., 2006; Chen et al., 2008), tax aggressiveness is described in our study as the downward manipulation of taxable income through tax-planning activities that could involve tax evasion. Examples of tax aggressive activities include the shifting of income or profits to offshore tax havens and the excessive claiming of tax deductions (e.g., interest expenses and R&D expenses) and tax losses that the corporation is not entitled to receive.

<sup>2</sup> See for example, the cases of Dynegy, Enron, GlaxoSmith-Kline, Parmalat, Sibneft, Tyco, WorldCom, and Yukos.

implementation costs (e.g., time/effort and tax transaction costs) and agency costs, including rent extraction by managers (Desai and Dharmapala, 2006; Chen et al., 2008).

Desai and Dharmapala (2006) argue that managers conceal rent extraction through tax aggressiveness. If managerial rent extraction occurs in an efficient capital market, then shareholders will price-protect themselves. Specifically, the potential rent extraction that accompanies tax aggressiveness, although beneficial to managers, can also come with the non-tax cost of a discount imposed by shareholders on the corporation's stock price (Chen et al., 2008). Desai et al. (2007) observe that corporations targeted by increased tax enforcement in Russia experienced an increase in their market value. This finding shows that although tax aggressive activities may save shareholders money, shareholders are aware of the possibility of rent extraction by managers and react positively to regulatory actions that prevent managers from transferring resources that use complex and obscure tax transactions. Chen et al. (2008) find that family corporations are less tax aggressive than their non-family counterparts. This result suggests that family owners are willing to forgo tax benefits to escape the non-tax costs of a potential discount of the corporation's stock price that can occur through shareholder concern about the concealment of family rent-seeking through tax aggressiveness. Hanlon and Slemrod (2009) analyze the stock price reaction to news about tax aggressiveness and find that, on average, a corporation's stock price declines when there is news concerning its involvement in tax aggressive activities.

Given the potentially damaging affect of tax aggressiveness on corporation value suggested by previous research (see e.g., Desai et al., 2007; Chen et al., 2008; Hanlon and Slemrod, 2009), an important research question that merits empirical investigation is whether the composition of the board of directors significantly reduces the likelihood of tax aggressiveness. Fama and Jensen (1983) argue that the board of directors is a major internal control mechanism that is responsible for monitoring the actions of management, and claim that outside directors have incentives to perform their monitoring tasks and to refuse to collude with management in the expropriation of shareholder wealth. Hence, including outside directors increases the capability of the board to monitor management effectively in settings characterized by agency problems arising from the separation of

corporate ownership and decision control, and may therefore help to reduce tax aggressiveness.

No previous research has empirically investigated whether corporate governance monitoring mechanisms such as board of director composition affect tax aggressiveness. This lack of research is surprising given that several tax authorities have recognized the importance of the board as an internal control mechanism for reducing tax aggressiveness. In 2003, the Australian Tax Office (ATO) placed tax planning and compliance at the center of good corporate governance strategies (ATO, 2005). In 2005, the ATO Commissioner Michael Carmody noted that there were encouraging signs that tax aggressiveness was increasingly being accepted as an important corporate governance issue to be considered by the board (ATO, 2005). In a survey of over 500 chairmen of UK-based large corporations in 2005, Her Majesty's Revenue and Customs (2006) observed that tax risk within the corporation was one of the most important matters facing corporate boards. The accounting profession has also recognized the link between tax aggressiveness and the board of directors. In 2005, KPMG (2005) published a position paper on tax in the boardroom which showed that boards were coming under greater pressure to monitor the tax affairs of their corporations. Finally, the subject of tax aggressiveness has also become relevant for corporate investors. In 2005, the asset management company Henderson Global Investors (2005) surveyed 335 chairmen of the 350 UK FTSE corporations. The survey results showed that it is increasingly being expected of corporations that they demonstrate to investors that they are complying with tax rules and regulations, because investors are aware that tax aggressiveness has a detrimental affect on their investment returns.

Previous accounting research has produced evidence on the value of including outside directors on the board with the objective of monitoring management in sensitive agency settings. Beasley (1996) examines whether a larger proportion of outside directors on the board affects the likelihood of financial statement fraud, and finds that including outside directors increases the board's effectiveness in monitoring management to prevent financial statement fraud. Uzun et al. (2004) investigate whether board of director composition affects the incidence of corporate fraud, and observe that as the level of outside directors on the board increases, the incidence of corporate fraud is reduced.

While the accounting research generally supports the idea that board of director composition is related to the board's effectiveness in reducing agency costs, no research has investigated board of director composition in terms of tax aggressiveness. Thus, the purpose of this study is to empirically examine whether board of director composition significantly reduces the likelihood of tax aggressiveness in an Australian corporate setting.<sup>3</sup> The association between board of director composition and tax aggressiveness merits examination because tax policymakers need to have a better understanding of the association to develop appropriate policy guidelines that address shortcomings in the internal tax management practices of corporations. This should in turn improve corporate tax revenue collection by governments.

We hand-collected a unique sample of 16 Australian corporations that were accused of undertaking tax aggressive activities by the ATO during the period 2001-2006. Reliable estimates indicate that the amount of corporate tax in dispute for these 16 corporations is substantial, at around AUD\$998.7 million (or AUD\$62.42 million on average for each corporation).<sup>4</sup> Thereafter, we then matched the 16 tax aggressive corporations with 16 non-tax aggressive corporations (based on industry classification, corporation size and time period). This process yielded a choice-based sample of 32 corporations for empirical analysis.

Our logit regression results show that the inclusion of a higher proportion of outside members on the board of directors reduces the likelihood of tax aggressiveness. Nevertheless, we also find that the existence of an audit committee does not significantly affect the incidence of tax aggressiveness. Finally, our additional logit regression results show that as the average number of directorships in other corporations held by outside directors increases, the likelihood of tax aggressiveness decreases.

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<sup>3</sup> We employ Australia as the corporate setting for our study for two reasons. First, the ATO is recognized as the first tax authority to link corporate governance (in terms of the board of directors) to tax aggressiveness (Landolf, 2006), and thus Australian corporations are likely to be more responsive to this association than corporations in other countries. Second, corporate governance disclosure has been mandatory in Australian financial reports since 2001, and thus corporate governance data are readily available for empirical analysis.

<sup>4</sup> It is also possible that tax aggressiveness plays an important role in Australia in keeping the corporate effective tax rate of approximately 20 percent on average (Commonwealth of Australia, 2006) significantly below the corporate statutory tax rate (which is currently 30 percent), thereby negatively affecting the collection of corporate tax revenue.

This study contributes to the literature in several ways. First, using a distinctive Australian sample of tax aggressive and non-tax aggressive corporations, it provides empirical evidence which shows that the inclusion of a higher proportion of outside members on the board of directors reduces the likelihood of tax aggressiveness. To our knowledge, our study is the first to document this negative association. This result suggests that more independent boards discourage tax aggressiveness through improved governance. Second, it provides important insights for tax policymakers who seek to identify the circumstances under which the risk of corporate tax aggressiveness is higher. Third, it provides additional empirical evidence to support an emerging paradigm that links the salient features of corporate governance with tax aggressiveness.

The remainder of the paper is organized as follows. Section 2 provides the relevant theory and develops hypotheses. Section 3 explains the sample formation process. Section 4 describes the research design. Section 5 reports and analyzes the empirical results, and Section 6 concludes.

## **2. Theory and hypotheses**

### *2.1. Board of director composition*

The board of directors receives its authority for internal control and other decisions from the corporation's shareholders. This makes the board of directors the apex of decision control within the corporation. Fama (1980) and Fama and Jensen (1983) argue that the composition of the board of directors is a critical factor in establishing a board that is an effective monitor of management actions, and emphasize the value of having both inside (management) and outside (non-management) members on the board. They further stress that a board of directors' effectiveness in monitoring management is a function of the combination of insiders and outsiders who serve on the board.

It is customary for the internal managers of a corporation to be the most important members of the board of directors, as they hold valuable information about the corporation's activities that helps the board to be an effective mechanism for decision control (Fama, 1980; Fama and Jensen, 1983). It is thus expected that the board will include several of the corporation's management team. However, a board is not effective in decision control unless it can limit the discretion that individual managers have to

make key decisions (Beasley, 1996). Williamson (1984) argues that as managers have a large information advantage due to their full-time status and insider knowledge, the board can easily become a tool of management and thereby ignore shareholder interests. Management domination of a board of directors can result in collusion and the transfer of shareholder wealth (Fama, 1980). Thus, boards usually include several outside members who act as mediators in disagreements between internal managers and sanction decisions that involve major agency problems (Fama and Jensen, 1983). Previous research by Beasley (1996) and Uzun et al. (2004) on accounting and corporate fraud documents the usefulness of including outside directors on the board to monitor management.

Fama (1980) and Fama and Jensen (1983) suggest that having a higher proportion of outside directors on the board increases its effectiveness in monitoring management. Beasley (1996) and Uzun et al. (2004) similarly show that having a higher percentage of outside directors increases a board's effectiveness as a monitor of top management. As has been mentioned previously, both the Australian and UK tax authorities recognize the importance of the board of directors as a potential internal control mechanism for limiting corporate tax aggressiveness (ATO, 2005; Her Majesty's Revenue and Customs, 2006), and the accounting profession acknowledges the critical role that the board of directors plays in monitoring management (KPMG, 2005). Finally, investors expect corporations to show that they are complying with tax rules and regulations (Henderson Global Investors, 2005). It is reasonable to expect that having a higher proportion of outside directors on the board of directors could significantly reduce the likelihood of tax aggressiveness. Our study thus tests the following hypothesis.

**H1:** All else being equal, the higher the proportion of outside directors on the board, the lower the level of tax aggressiveness.

This hypothesis is based on the traditional definition of outside directors, which includes all non-employee directors. However, it is also possible to divide outside directors into independent directors and grey directors (Hermalin and Weisbach, 1988; Shivdasani, 1993; Vicknair et al., 1993; Beasley, 1996; Klein, 2002; Uzun et al., 2004). Independent directors are outside directors who have no affiliation with the corporation other than being on the board of directors, whereas grey directors are outside directors who have some non-board affiliation with the corporation. Grey directors represent a

potential source of violation of board independence because of their affiliations with management, either by being a family relation of a manager, a consultant or supplier to the corporation, an outside legal adviser who carries out legal work for the corporation, or a retired former executive of the corporation.

The theory proposed by Fama (1980) and Fama and Jensen (1983) regarding board of director composition predicts that a higher proportion of independent directors may increase the board's effectiveness in monitoring management for tax aggressiveness. Our study thus tests the following hypothesis.

**H2:** All else being equal, the higher the proportion of independent directors on the board, the lower the level of tax aggressiveness.

## *2.2. Audit Committee Existence*

Our study also considers whether the existence of an audit committee affects corporate tax aggressiveness, given that typically the board of directors delegates responsibility for the supervision of financial reporting to the audit committee if one is present (Beasley, 1996; Agrawal and Chadha, 2005). It is also one of the audit committee's responsibilities to oversee the tax-related risks of the corporation (Deloitte, Touche and Tohmatsu, 2005; KPMG, 2005). Pincus et al. (1989) find that audit committees are monitoring mechanisms that are voluntarily used in situations of high agency costs to enhance the quality of information flow between principal and agent. They contend that the capacity of the board to control management is improved by an audit committee that provides detailed knowledge of the financial statements and other financial information supplied by the corporation.

Previous research by Beasley (1996) and Gerety and Lehn (1997) finds that the existence of an audit committee does not significantly reduce the likelihood of financial statement fraud. However, Beasley et al. (2000) examine financial statement fraud during the late 1980s through to the 1990s in the healthcare, financial services, and technology industries, and find that corporations in the healthcare and technology industries that committed fraud had fewer audit committee meetings and corporations committing fraud in all three industries had less internal audit support. In a study of board composition and corporate fraud, Uzun et al. (2004) find that the presence of an audit committee

significantly decreases the likelihood of corporate fraud. Hence, it is possible that the existence of an audit committee could be perceived as indicative of higher quality monitoring and may significantly reduce the likelihood of tax aggressiveness. Our study thus tests the following hypothesis.

**H3:** All else being equal, the existence of an audit committee reduces the likelihood of tax aggressiveness.

### **3. Sample description**

The sample employed to test our hypotheses is represented by 32 corporations that are listed on the Australian Stock Exchange (ASX). Of the 32 corporations, 16 represent tax aggressive corporations, each having been accused of tax aggressiveness by the ATO during the period 2001-2006.<sup>5</sup> Each of the tax aggressive corporations is matched with a non-tax aggressive corporation to generate a choice-based sample of 16 tax aggressive and 16 non-tax aggressive corporations.

#### *3.1. Tax aggressive corporation sample formation*

The sample of tax aggressive corporations comprises firms that were involved in cases of tax aggressiveness during the period 2001-2006. We include a corporation in the sample if we can confirm that an ATO tax audit investigation revealed an instance of tax aggressiveness that led to the ATO issuing the corporation with an amended tax assessment increasing the amount of income tax payable.

Initially, we used the corporate announcement search option on the ASX website to conduct an exhaustive electronic search for cases of accused tax aggressiveness by publicly listed corporations for the period 2001-2006. In particular, we searched for the word strings “tax aggressiveness,” “tax avoidance,” “tax evasion,” “tax shelter,” and “amended tax assessment.” Once we identified a potential tax aggressive corporation by this process, the corporate announcement was read thoroughly and we only retained those corporations for which the ATO issued an amended tax assessment due to tax aggressive activities in the sample.

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<sup>5</sup> The sample period 2001-2006 was chosen because corporate governance disclosure was not mandatory for corporations listed on the ASX before 2001 and the latest available corporate governance data at the time of our study is that for 2006.

The same process was repeated on the ATO website, utilizing its legal database to carry out a thorough electronic search for case judgments during the period 2001-2006 related to instances of tax aggressiveness involving the ATO and publicly listed corporations that were not reported on the ASX website. Again, we searched for the word strings “tax aggressiveness,” “tax avoidance,” “tax evasion,” “tax shelter,” and “amended tax assessment” to identify a potential tax aggressive corporation. We then read each tax case carefully and retained only those corporations for which the ATO issued an amended tax assessment due to tax aggressiveness.<sup>6</sup>

Overall, the ASX and ATO websites produced a sample of 16 tax aggressive corporations for further study. Although at first glance it may appear that the total number of tax aggressive corporations in our sample is relatively small, it is satisfactory given the sampling timeframe of our study of five years. In a study of corporate debt policy and tax aggressiveness in the United States, Graham and Tucker (2006) were only able to uncover 43 cases of publicly listed corporations accused of tax aggressiveness during the period 1975-2000, which represents a sampling time horizon of 25 years.

Table 1 reports that 14 of the 16 tax aggressive corporations are from searches undertaken on the ASX website and 2 are from searches carried out on the ATO website. A total of seven tax aggressive corporations were discarded from the study as a result of: (1) the corporation being a financial corporation subject to special regulatory requirements (four corporations); (2) the corporation being a foreign corporation listed on the ASX and its tax aggressiveness involving an abuse of foreign tax laws rather than Australian domestic tax laws (one corporation); or (3) the corporation being delisted from the ASX during the 2001-2006 period (two corporations).

**[Insert Table 1 About Here]**

The different types of tax aggressive activities of the corporations detected in our sample of tax aggressive corporations, together with the specific amounts of corporate tax in dispute with the ATO, are reported in Table 2. The most common type of activity is the excessive use of corporate debt to minimize taxable income by over-claiming tax

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<sup>6</sup> As a check of our search results for tax aggressive corporations, we searched each corporation included on the ASX 500 list of corporations individually on the ASX and ATO websites during the period 2001-2006 to ensure that no potential tax aggressive corporations were overlooked in our sample. This additional procedure yielded no extra cases of tax aggressive corporations. We thus consider our sample to be broadly representative of publicly listed tax aggressive corporations in Australia.

deductions for interest expenses (AUD\$210.2 million tax in dispute). Other frequently occurring types include the overuse of tax losses (AUD\$379 million tax in dispute), capital gains tax reductions in corporate restructuring (AUD\$222 million tax in dispute), the over-claiming of tax deductions for rent and lease costs (AUD\$40 million tax in dispute), and the use of sale and leaseback transactions (AUD\$48.7 million tax in dispute). Less common types involve the utilization of capital gains tax losses (AUD\$45 million tax in dispute), the over-claiming of tax deductions for R&D expenses (AUD\$3.2 million tax in dispute), falsely obtaining an income tax exemption for offshore income (AUD\$0.2 million tax in dispute), the forward sale of shares and share warrants to reduce taxable income (AUD\$40.7 million tax in dispute), and trading stock manipulation (AUD\$9.7 million tax in dispute). A common feature of the majority of tax aggressive activities reported in Table 2 is that they effectively generate tax deductions (e.g., interest, tax loss and R&D deductions) that can be utilized by the corporation to offset assessable income to thereby reduce taxable income.

**[Insert Table 2 About Here]**

### *3.2. Matched corporation sample formation*

To form the matched sample, we scrutinized all of the corporations listed on the ASX. Non-tax aggressive corporations were identified that are similar to the tax aggressive corporations in terms of: (1) industry classification; (2) corporation size; and (3) time (see e.g., Kaplan and Reishus, 1990; Beasley, 1996; Gerety and Lehn, 1997; Uzun et al., 2004). In particular, we identified non-tax aggressive corporations in the same four-digit General Industry Classification Standard (GICS) industry as a given tax aggressive corporation in the year before the tax aggressive activity took place (year  $t-1$ ). Among these same-industry corporations, we considered matched corporations to be those with a market value of common stock that is +/- 30 percent of the common stock for a corresponding tax aggressive corporation in year  $t-1$ .<sup>7</sup>

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<sup>7</sup> Although our comparison sample's cut-off point of +/- 30 percent appears to be large, it is consistent with Beasley (1996). Additionally, most of the tax aggressive corporations and non-tax aggressive corporations in the sample are similar within a range of +/- 20 percent. As the mean market value of common stock of the tax aggressive corporations in our sample is AUD\$6,480 million, the related matched corporation size may range from AUD\$4,536 million to AUD\$8,424 million. In keeping with Beasley (1996), there is no reason to believe that such a range has a significant impact on board characteristics.

The matching process generated several matches in some instances and few in others. Accordingly, for a given tax aggressive corporation, we collapsed all of the matched corporations down to a single match to generate one match per tax aggressive corporation. By so doing, our empirical analysis avoids being overshadowed by cases for which our matching process happens to provide several matches (see e.g., Graham and Tucker, 2006). This process produced a matched sample that is similar in scope to the tax aggressive corporation sample.

Table 3 provides the matching statistics for the tax aggressive and non-tax aggressive corporations. All of the financial statement data were obtained from the Aspect-Huntley financial database. Based on an overall analysis of the matching statistics reported in Table 3, we observe that, on average, the tax aggressive corporations have greater total assets, sales, and market value than the non-tax aggressive corporations. However, we also find that, on average, the tax aggressive corporations have lower effective tax rates (i.e., pay less corporate income tax) than the non-tax aggressive corporations even though they are almost as profitable as the non-tax aggressive corporations (based on return on assets). Finally, a comparison of the means (paired t-tests) and medians (Wilcoxon matched-pair sign rank test) reveals no statistically significant differences in the total assets, total sales, market value of common stock, effective tax rates, and return on assets of the tax aggressive corporations and the non-tax aggressive corporations.

**[Insert Table 3 About Here]**

#### **4. Research design**

Our research design includes a standard logit regression analysis to test our hypotheses. Logit regression is used for two reasons. First, our dependent variable – tax aggressiveness – is a dummy variable (see e.g., Beasley, 1996; Uzun et al., 2004). Second, our study uses a choice-based sample (where 50 percent of the corporations are tax aggressive corporations and 50 percent of the corporations are non-tax aggressive corporations) instead of a random sample from the population. However, it is likely that the actual incidence of tax aggressiveness in the population of publicly listed corporations is much lower than 50 percent (Slemrod, 2007; Hanlon et al., 2007).

Maddala (1991) argues that logit regression analysis is the most suitable statistical method to employ where there is disproportionate sampling from two populations. In

particular, he asserts that the coefficients of the independent variables are not affected by the unequal sampling rates from the two groups. Rather, it is only the constant term that is affected (Maddala, 1991). Given that it is not the objective of this study to build a predictive model of tax aggressiveness, any potential bias in the constant term should have no impact on our empirical analysis, and logit regression analysis is thus suitable for testing our hypotheses.

#### *4.1. Dependent variable*

The dependent variable for our empirical tests is the dummy variable tax aggressiveness (TAG), which takes a value of 1 if a corporation has been accused of tax aggressiveness by the ATO resulting in the issue of an amended tax assessment, and 0 otherwise. The data used to construct TAG were collected from the ASX and ATO websites, as outlined in the section on the sampling procedure above.

#### *4.2. Independent variables*

Our independent variables are the proportion of board members who are non-employee directors (POSBOD), the proportion of board members who are grey directors (PGBOD), the proportion of board members who are independent directors (PIBOD), and the existence of an audit committee (AUDCOM), which takes a value of 1 if the corporation has an audit committee and 0 otherwise. The data used to measure the variables POSBOD, PGBOD, PIBOD, and AUDCOM were gathered from the University of Technology – Sydney (UTS) Corporate Governance database.

#### *4.3. Control variables*

We include several control variables from the literature on corporate governance and fraud (see e.g., Loebbecke, 1989; Beasley, 1996; Uzun et al., 2004) in our regression model to avoid the potential problem of correlated omitted variable bias. The data for the control variables were collected from the Aspect-Huntley financial database and the UTS Corporate Governance database.

Growth (GROWTH) controls for differences in the extent of corporate growth between the tax aggressive and non-tax aggressive corporations. Corporations with

greater growth opportunities are more likely to engage in fraudulent behavior. Specifically, in a rapid corporate growth cycle, management has greater motivation to engage in non-compliant activities during a downturn to give the appearance of stable growth (Loebbecke, 1989; Bell et al., 1991). GROWTH is measured as the proportional change in total assets for the two years before the year of the tax aggressive activity.

Trouble (TROUBLE) controls for differences in the degree of financial health between the tax aggressive and non-tax aggressive corporations. Poor financial performance frequently causes management to place undue reliance on earnings and profitability, thereby increasing the threat of financial fraud (Loebbecke, 1989; Bell et al., 1991). TROUBLE is measured as a dummy variable that takes a value of 1 if the company reported at least three annual net losses in the six-year period preceding the first year of the tax aggressive activity and 0 otherwise.

Age public (AGEPUB) controls for differences in the length of time that the corporation's stock has been traded in public markets. It is possible that new publicly listed corporations run a much greater risk of financial wrongdoing because management is compelled to meet earnings expectations (AICPA, 1987). Furthermore, the longer a corporation has traded in public markets, the more likely it is to have made changes to comply with public market obligations, including obligations that affect board of director composition (Beasley, 1996). AGE PUB is measured as the number of years that the corporation's stock has been traded on the ASX.

Management stock ownership of the board of directors (MTOWBOD) controls for differences in the extent of the ordinary stock ownership of the corporation held by managers serving on the board as directors. It has been suggested that encouraging management to hold substantial equity interest in a corporation gives them greater incentives to increase the value of the corporation (Jensen and Meckling, 1976). However, managers may also be motivated to inflate the stock price by engaging in fraudulent behavior (Loebbecke, 1989). MTOWBOD is measured as the cumulative proportion of ownership in the corporation held by insiders (e.g., managers) who serve on the board.

CEO tenure (CEOTENURE) controls for the CEOs ability to influence board composition and the board's monitoring of financial wrongdoing. It has been suggested that CEOs with many years of experience exert significantly more power than less

established CEOs (Hermalin and Weisbach, 1988). CEOs are also perceived to have an influential voice regarding board decisions and board appointments, and thus there is a greater possibility that more experienced CEOs will act in their own self-interest by engaging in fraudulent activities (Mace, 1986; Vancil, 1987). CEOTENURE is measured as the number of years that the CEO has served as a director on the board.

Finally, block held (BLOCKHLD) controls for differences in the extent of the stockholding held by blockholders that hold at least five percent of shares and who are not affiliated with management. The existence of blockholders adds to the incentives to monitor management, because these shareholders have greater power and influence over the board and management than less significant shareholders (Shleifer and Vishny, 1986; Jensen, 1993). BLOCKHLD is measured as the total proportion of outstanding shares of blockholders who hold at least five percent of outstanding shares and are not affiliated with management. Blocks held by family trusts, employee share ownership plans, and retirement plans are excluded because the voting rights associated with these shares are normally controlled by top management (Beasley, 1996).<sup>8</sup>

#### 4.4. Regression models

To examine the association between board of director composition and tax aggressiveness, we estimate the following logit regression model:

$$\text{TAG}_i = \alpha_0 + \beta_1 \text{POSBOD}_i + \beta_2 \text{GROWTH}_i + \beta_3 \text{TROUBLE}_i + \beta_4 \text{AGEPUB}_i + \beta_5 \text{MTOWBOD}_i + \beta_6 \text{CEOTEN}_i + \beta_7 \text{BLKHLD}_i + \varepsilon_i \quad (1)$$

where:

- i = corporations 1 through 32;
- TAG = a dummy variable that takes a value of 1 if a corporation was accused of tax aggressiveness by the ATO and 0 otherwise;
- POSBOD = the proportion of board members who are non-employee directors;
- GROWTH = the proportional change in total assets for the two years before

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<sup>8</sup> Another potential control variable identified in previous research by Loebbecke (1989) and Beasley (1996) is BOSS, which controls for the CEOs capacity to influence board composition and board monitoring of financial wrongdoing. However, this variable was dropped from the study because of collinearity in the logit regression analysis.

		the year of the corporate tax aggressiveness;
TROUBLE	=	a dummy variable that takes a value of 1 if the company reported at least three annual net losses in the six-year period preceding the first year of the tax aggressive activity and 0 otherwise;
AGEPUB	=	the number of years that the corporation's shares have been traded on the stock exchange;
MTOWBOD	=	the cumulative proportion of ownership in the corporation held by insiders (e.g., managers) who serve on the board;
CEOTEN	=	the number of years that the CEO has served as a director;
BLKHLDD	=	the total proportion of outstanding shares of blockholders who hold at least five percent of outstanding shares and are not affiliated with management; and
$\epsilon$	=	the error term.

To consider the association between the composition of grey and independent directors on the board and tax aggressiveness, we estimate the following logit regression model:

$$TAG_i = \alpha_0 + \beta_1 P\_GBOD_i + \beta_2 P\_IBOD_i + \beta_3 GROWTH_i + \beta_4 TROUBLE_i + \beta_5 AGE PUB_i + \beta_6 MTOWBOD_i + \beta_7 CEOTEN_i + \beta_8 BLKHLDD_i + \epsilon_i \quad (2)$$

where:

P_GBOD	=	the proportion of board members who are grey directors; and
P_IBOD	=	the proportion of board members who are independent directors.

To analyze the association between audit committee existence and tax aggressiveness, we estimate the following logit regression model:

$$TAG_i = \alpha_0 + \beta_1 P\_OSBOD_i + \beta_2 AUDCOM_i + \beta_3 GROWTH_i + \beta_4 TROUBLE_i + \beta_5 AGE PUB_i + \beta_6 MTOWBOD_i + \beta_7 CEOTEN_i + \beta_8 BLKHLDD_i + \epsilon_i \quad (3)$$

where:

AUDCOM	=	a dummy variable that takes a value of 1 if the corporation has an audit committee and 0 otherwise.
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## 5. Empirical results

### 5.1. Results of hypotheses testing

In terms of board of director composition, tax aggressive corporations have boards that are, on average (median) 63% (67%) composed of outside directors, whereas non-tax aggressive corporations have boards that are on average (median) 79% (77%) composed of outside directors. A comparison of the means (paired t-tests) and medians (Wilcoxon matched-pair sign rank test) of the tax aggressive corporations and non-tax aggressive corporations shows that there is a statistically significant difference between the two ( $p < .05$ ), which provides preliminary support for H1. However, these univariate tests should be viewed with caution when making inferences about the possible association between board of direction composition and tax aggressiveness. Univariate tests implicitly assume that other potentially relevant corporate characteristics are fixed, which may not be the case. We thus employ logit regression analysis to test our hypotheses in a multivariate framework.

Table 4 summarizes the logit regression results (coefficient estimates with the  $t$ -statistics in parentheses, and standard errors are corrected using the White (1980) procedure) for our choice-based sample of 32 corporations. In particular, Table 4 (Logit1) reports that our logit regression model has a pseudo  $R^2$  of 28.55%. The regression coefficient for POSBOD is negative and statistically significant ( $p < .05$ ), which furnishes additional support for H1. It seems that increasing the proportion of outside members on the board of directors reduces the level of tax aggressiveness. This result is consistent with Fama (1980) and Fama and Jensen (1983) who claim that outside directors are key monitors of management. In terms of the regression coefficients for the corporate governance control variables, Table 4 (logit1) shows that several are statistically significant. AGE PUB controls for the number of years the corporation's shares have been publicly traded. It has a significantly positive association with TAG ( $p < .05$ ), which indicates that the longer the corporation's shares have been publicly traded on the stock exchange, the greater the likelihood of tax aggressiveness. MTOWBOD controls for the cumulative proportion of ownership of the corporation held by insiders (e.g., managers) who serve on the board, and has a significantly positive association with TAG ( $p < .10$ ). This finding suggests that as the cumulative proportion of ownership in

the corporation held by insiders increases, the possibility of tax aggressiveness rises. Finally, the regression coefficients for GROWTH, TROUBLE, CEOTEN, and BLKHLD are not significantly different from zero.

To test the prediction in H2 that increasing the proportion of independent members on the board of directors significantly lowers the level of tax aggressiveness, we ran another logit regression model. We replaced POSBOD (the proportion of board members who are non-employee directors) with the variables PGBOD (the proportion of board members who are grey directors) and PIBOD (the proportion of board members who are independent directors), but retained all of the control variables from our original logit regression model. Table 4 (Logit2) shows that this logit regression model has a pseudo  $R^2$  of 28.56%. The regression coefficient for PGBOD is negative and statistically significant ( $p < .10$ ), as is the regression coefficient for PIBOD ( $p < .05$ ). These results provide support for H2, and by implication, the results reported for POSBOD in Table 4 (logit1). This suggests that the tests of H1 are not sensitive to the definition of outside directors used, which is consistent with Beasley's (1996) analysis of board of director composition and financial statement fraud. Finally, in line with the earlier logit regression model results, the regression coefficient for AGE PUB has a significantly positive association with TAG ( $p < .05$ ), and the regression coefficient for MTOWBOD also has a significantly positive association with TAG ( $p < .10$ ). The regression coefficients for GROWTH, TROUBLE, CEOTEN, and BLKHLD are not significant.

Our last hypothesis (H3) considers whether the existence of an audit committee significantly reduces the likelihood of tax aggressiveness. Table 4 (Logit3) shows that the logit regression model has a pseudo  $R^2$  of 31.09%. The regression coefficient for POSBOD continues to be negative and statistically significant ( $p < .05$ ). However, the regression coefficient for AUDCOM is not significant, and therefore H3 is not supported by the results. This finding is consistent with the results of Beasley's (1996) study of audit committee existence and financial statement fraud. Overall, the results reported in Table 4 (Logit3) suggest that board composition is significantly more likely than the existence of an audit committee to reduce the possibility of tax aggressiveness, and that the empirical tests of H1 are not affected by the existence of an audit committee. Finally, the regression coefficient for AGE PUB has a significantly positive association with TAG

( $p < .01$ ), and the regression coefficients for GROWTH, TROUBLE, MTOWBOD, CEOTEN, and BLKHLD are not significantly different from zero.

Finally, we also ran another logit regression model that included the interaction term POSBOD\*AUDCOM together with POSBOD, AUDCOM and the control variables to determine whether the interaction between board composition and audit committee existence influences the likelihood of tax aggressiveness. The (unreported) regression results indicate that the regression coefficient for POSBOD continues to be negative and statistically significant ( $p < .05$ ). However, the regression coefficients for AUDCOM and POSBOD\*AUDCOM are not significant in this regression model. Finally, the regression coefficient for AGE PUB has a significantly positive association with TAG ( $p < .05$ ), and the regression coefficients for GROWTH, TROUBLE, MTOWBOD, CEOTEN, and BLKHLD are not significant.

**[Insert Table 4 About Here]**

#### *5.2. Additional analysis of other board characteristics*

The empirical results presented in Table 4 are consistent with the idea that outside directors enhance board monitoring activities that assist in reducing the likelihood of tax aggressiveness. However, it is also possible that there may be other individual characteristics of the outside directors on the board that may assist in reducing tax aggressiveness. We therefore perform additional analysis on the following board characteristics:

- the cumulative proportion of common stock of the corporation held by outside directors (STOCKOD);
- the average tenure of outside directors on the board (OUTTEN); and
- the average number of directorships in other corporations held by outside directors (DIRSHIP).

This additional analysis should improve our understanding of the link between other board of director characteristics and tax aggressiveness. Specifically, we ran a logit regression model similar to Eq. (1), except that it also includes the variables STOCKOD, OUTTEN, and DIRSHIP in consecutive regressions.

Jenson and Meckling (1976) and Jensen (1993) claim that encouraging outside directors to hold substantial equity interest in the corporation provides better incentives

for monitoring top management and thereby reduces agency costs. It is possible that a director with a large stake in the corporation is more likely to question and challenge management proposals (Mace, 1986; Patton and Baker, 1987). Focusing on the fraction of stock held by outside directors who are not employees or officers of the corporation, Beasley (1996) finds accounting fraud to be negatively associated with this measure of stock ownership concentration. Thus, it is reasonable to expect that the holding of significant equity interest in the corporation by outside directors could potentially reduce the likelihood of tax aggressiveness. STOCKOD is thus included in the logit model to determine whether the extent of outside director ownership in the corporation significantly affects the possibility of tax aggressiveness.

Beasley (1996) asserts that it is likely that the lack of seniority of outside directors affects their capacity to scrutinize top management. However, more senior members of the board are likely to be less vulnerable to group pressure to conform. Beasley (1996) finds that as the number of years of board service for outside directors increases, the likelihood of financial statement fraud decreases. However, it is also possible that outside directors with longer board tenures may be in league with top management, whereas new directors may be more independent and observant (Beasley, 1996). OUTTEN is thus included in the logit model to determine whether the board tenure of outside directors significantly influences the likelihood of tax aggressiveness.

Fama (1980) argues that the incentives for outside directors to monitor management are provided by the external market for outside directors. Outside directors have incentives to be good monitors because being the director of an efficient corporation suggests value to the market and rewards the director with more directorships. According to this view, the number of additional outside directorships held by each outside director should serve as a measure of a director's reputation as a monitor. Gerety and Lehn (1997) provide evidence to support the argument that directors of corporations charged with accounting fraud suffer a reputational loss in the market for directors. However, Morck et al. (1988) note that monitoring top management requires time and effort, and that as the number of extra directorships on other boards increases, demands on an individual director's time reduce the amount of time available for the director to carry out monitoring responsibilities in any single corporation. Beasley (1996) finds that the more

directorships in other corporations that the outside directors of fraudulent corporations hold, the greater the likelihood of financial statement fraud in a corporation. DIRSHIP is thus included in the logit model to establish whether the number of extra directorships held by outside directors significantly affects the likelihood of tax aggressiveness.

In addition to examining the aforementioned three characteristics of outside directors, we also analyze whether board size affects tax aggressiveness. Jensen (1993) argues that when the board of directors is small it performs a better controlling function, but when it is large it is less likely to function effectively as a curb on management and is therefore easier for the CEO to control (Jensen, 1993). Beasley (1996) finds that as board size increases, the possibility of accounting fraud increases. Yermack (1996) similarly shows that small boards are more effective than large boards. Overall, it is reasonable to assume that a larger board of directors should significantly increase the likelihood of corporate tax aggressiveness. SIZEBOD is thus included in the logit model to determine whether board size significantly affects the likelihood of tax aggressiveness.

Table 5 reports the results of the additional logit regression models (coefficient estimates with the *t*-statistics in parentheses, and standard errors are corrected using the White (1980) procedure). We first tested whether the common stock ownership of outside directors (STOCKOD) significantly affects tax aggressiveness. Table 5 (Logit 4) shows that the logit regression model has a pseudo  $R^2$  of 28.90%. The regression coefficient for POSBOD continues to be negative and statistically significant ( $p < .05$ ), but the regression coefficient for STOCKOD is not significant. For the control variable coefficients, AGE PUB has a significantly positive association with TAG ( $p < .05$ ), MTOWBOD has a significantly positive association with TAG ( $p < .10$ ), and the regression coefficients for GROWTH, TROUBLE, CEOTEN, and BLKHL D are not significantly different from zero.

The next test is whether the average tenure of outside directors on the board (OUTTEN) significantly affects tax aggressiveness. Table 5 (Logit 5) indicates that the logit regression model has a pseudo  $R^2$  of 29.59%. The regression coefficient for POSBOD remains negative and statistically significant ( $p < .05$ ), but the regression coefficient for OUTTEN is not significant. In terms of the control variable coefficients, AGE PUB has a significantly positive association with TAG ( $p < .05$ ), MTOWBOD has a

significantly positive association with TAG ( $p < .10$ ), and the regression coefficients for GROWTH, TROUBLE, CEOTEN, and BLKHLD are not significant.

We then test whether the average number of directorships in other corporations held by outside directors (DIRSHIP) significantly affects tax aggressiveness. Table 5 (Logit 6) reports that this logit regression model has a pseudo  $R^2$  of 31.97%. The regression coefficient for POSBOD is again negative and statistically significant ( $p < .10$ ). The regression coefficient for DIRSHIP is also negative and statistically significant ( $p < .10$ ), which indicates that as the average number of directorships held in other corporations by outside directors increases, the likelihood of tax aggressiveness is reduced. This result is consistent with Fama (1980), who argues that the number of other outside directorships held by each outside director serves as an important measure of the director's reputation as an effective monitor. Regarding the control variable coefficients, AGE PUB has a significantly positive association with TAG ( $p < .01$ ), MTOWBOD has a significantly positive association with TAG ( $p < .10$ ), and the regression coefficients for GROWTH, TROUBLE, CEOTEN, and BLKHLD are not significantly different from zero.

Finally, we test whether the number of members serving on the board of directors (SIZEBOD) significantly affects tax aggressiveness. Table 5 (Logit 7) shows that the logit regression model has a pseudo  $R^2$  of 29.01%. The regression coefficient for POSBOD remains negative and statistically significant ( $p < .05$ ), but the regression coefficient for SIZEBOD is not significant. In terms of the control variable coefficients, AGE PUB has a significantly positive association with TAG ( $p < .05$ ), MTOWBOD has a significantly positive association with TAG ( $p < .10$ ), and the regression coefficients for GROWTH, TROUBLE, CEOTEN, and BLKHLD are not significant.

**[Insert Table 5 About Here]**

### *5.3. Robustness Checks*

To assess the robustness of our empirical results, we perform several robustness checks. First, we re-estimated the regression models using non-parametric logit regression analysis (see e.g., Hosmer and Lemeshow, 1989; Green and Silverman, 1994). The (unreported) regression results show that the coefficient estimates for POSBOD, PGBOD, PIBOD, and DIRSHIP have identical signs and similar levels of statistical significance to those reported in Table 4 and Table 5. Second, we computed the

likelihood-ratio test (see e.g., Fox, 2000) which indicates that our logit models are not statistically significantly different from standard logit models ( $p > .10$ ). Finally, to deal with potential outlier problems, we re-estimated our logit regression models after excluding several outliers (see e.g., Neter et al., 1996). The results are comparable to those presented in Table 4 and Table 5 in terms of sign and statistical significance. These checks indicate that, overall, our findings are reliable.

## **6. Conclusions**

This study empirically tests whether board of director composition affects corporate tax aggressiveness. Based on a choice-based sample of 32 corporations (16 tax aggressive corporations and 16 non-tax aggressive corporations), our study employs logit regression analysis to empirically test the main prediction that the inclusion of a higher proportion of outside members on the board reduces the likelihood of tax aggressiveness. We find a negative and statistically significant association between outside board of director membership and tax aggressiveness across many different regression model specifications. Thus, it appears that more independent boards deter tax aggressiveness through better governance. We also observe that the existence of an audit committee does not significantly affect the likelihood of tax aggressiveness. Finally, our additional analysis provides evidence of a negative and statistically significant association between the average number of directorships held by outside directors and tax aggressiveness.

Overall, our study provides unique insights into the association between board of director composition and tax aggressiveness. In so doing, it helps to extend the literature on the topic of corporate governance and tax aggressiveness. Moreover, the empirical results should be valuable for tax policymakers who seek to identify the particular circumstances under which the risk of tax aggressiveness by corporations is increased. Finally, the study provides further empirical evidence to support an emerging paradigm that links important features of corporate governance to tax aggressiveness.

This study is subject to several limitations. First, the sample is limited to publicly listed corporations as we were only able to collect information about tax aggressiveness that is in the public domain. Due to confidentiality concerns, tax aggressiveness information about private corporations is not made available to the public. Second, the

total number of tax aggressive corporations in our sample is relatively small. However, it appears to be satisfactory given the sampling timeframe of five years (see e.g., Graham and Tucker, 2006). Third, the tax aggressive cases identified on the ASX and ATO websites may not be wholly representative of the population of tax aggressive cases, which means that the implications of the findings are limited. Fourth, the means by which we identified non-tax aggressive corporations may have led to misclassification if a corporation classified as a non-tax aggressive corporation had engaged in tax aggressive activities yet to be detected. However, the possibility of this was minimized by searching both the ASX and ATO websites for the extended period of 1998-2008 to confirm that there were no reported cases of tax aggressive activities for any of the non-tax aggressive corporation in our matched sample.

Future research into corporate governance and tax aggressiveness could consider three matters. First, little is known about the practices that outside directors employ to assess the tax risks of a corporation, yet an understanding of the means by which outside directors exert control over board actions related to tax risks would contribute greatly to existing knowledge. Second, given that our empirical results fail to support the idea that the existence of an audit committee has a significant (negative) affect on the likelihood of tax aggressiveness, additional research is needed to provide a better understanding of the monitoring processes that audit committees use to analyze the tax risks of the corporation. Finally, although our additional empirical analysis considered several outside director characteristics that may affect tax aggressiveness, further analysis of other individual director characteristics (e.g., differences in personal traits, management style, and other behavioral characteristics) may be worthwhile.

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## List of tables

Table 1

Reconciliation of the tax aggressive corporations in the sample

Number of tax aggressive corporations identified on the ASX website	21
Less:	
Financial corporations	(4)
Foreign corporations listed on the ASX	(1)
De-listed corporations	(2)
Sub-total	14
Add: Number of tax aggressive corporations identified on the ATO website	2
Total number of tax aggressive corporations included in the sample	16

Table 2

Types of tax aggressive activities of the corporations in the sample

Tax aggressiveness type	Frequency (#)	Relative frequency (%)	Amount of tax in dispute (AUD\$M)
Deductibility of interest expenses	3	18.75	210.2
Transfer of tax losses	2	12.50	379
Corporate restructures – capital gains tax	2	12.50	222
Deductibility of rent and lease costs	2	12.50	40
Sale and leaseback transactions	2	12.50	48.7
Claiming capital gains tax losses	1	6.25	45
Deductibility of R&D expenses	1	6.25	3.2
Exemption of offshore income	1	6.25	0.2
Forward sale of shares and share warrants	1	6.25	40.7
Trading stock manipulations	1	6.25	9.7
Totals	16	100%	\$998.7

Table 3  
 Matching statistics for the tax aggressive and non-tax aggressive corporations

Variable	Tax aggressive corporations Mean (Median) [Std. Dev.]	Non-tax aggressive corporations Mean (Median) [Std. Dev.]
Total assets (\$ millions)	6,373 (1,502) [13,502]	4,617 (1,098) [9,375]
Total sales (\$ millions)	4,638 (814) [8,397]	3,622 (1,274) [8,510]
Market value of equity (\$ millions)	6,480 (2,023) [15,238]	5,849 (1,574) [12,805]
Effective tax rate (%)	19% (17%) [17%]	23% (24%) [14%]
Return on assets (%)	8% (6%) [6%]	9% (10%) [10%]
Year and number of tax aggressiveness cases detected over the sample period 2001-2006		
2001: 2	2003: 1	2005: 2
2002: 8	2004: 2	2006: 1
		Total 16

Notes:

- (1) All of the financial statement data were obtained from the Aspect-Huntley financial database.
- (2) The effective tax rate is measured as income tax paid divided by pre-tax income.
- (3) The return on assets is measured as net income divided by total assets.
- (4) Paired t-tests (Wilcoxon matched-pair sign rank test) for means (medians) are carried out to determine whether tax aggressive and non-tax aggressive corporations differ significantly in terms of total assets, total sales, market value of equity, effective tax rates, or return on assets. No statistically significant differences are found.

Table 4  
Logit regression results – hypotheses testing

Variable	Predicted sign	Logit1 <sup>a</sup>	Logit2 <sup>a</sup>	Logit3 <sup>a</sup>
Intercept		1.83 (0.77)	1.84 (.75)	1.52 (.70)
POSBOD	–	-4.94 (-1.75)**		-4.50 (-1.73)**
PGBOD	–		-4.99 (-1.55)*	
PIBOD	–		-4.88 (-1.82)**	
AUDCOM	–			-1.53 (-.79)
GROWTH	?	-.05 (-.15)	-.05 (-.15)	-.079 (-.18)
TROUBLE	?	-1.63 (-1.44)	-1.66 (-1.02)	-1.66 (-1.09)
AGEPUB	?	.10 (2.53)**	.10 (2.18)**	.11 (2.78)***
MTOWBOD	?	.01 (1.76)*	.01 (1.61)*	.01 (1.31)
CEOTEN	?	-.10 (-.92)	-.10 (-.90)	-.10 (-.80)
BLKHLD	?	.01 (1.15)	.01 (1.00)	.01 (.92)
Pseudo R <sup>2</sup> (%)		28.55	28.56	31.09
Number of observations		32	32	32

Variable definitions: POSBOD = the proportion of board members who are non-employee directors; PGBOD = the proportion of board members who are grey directors; PIBOD = the proportion of board members who are independent directors; AUDCOM = a dummy variable that takes a value of 1 if the corporation has an audit committee and 0 otherwise; GROWTH = the proportional change in total assets for the two years before the year of the corporate tax aggressiveness; TROUBLE = a dummy variable that takes a value of 1 if the company reported at least three annual net losses in the six-year period preceding the first year of the tax aggressive activity and 0 otherwise; AGEPUB = the number of years that the corporation's shares have been traded on the stock exchange; MTOWBOD = the cumulative proportion of ownership in the corporation held by insiders (e.g., managers) who serve on the board; CEOTEN = the number of years that the CEO has served as a director; and BLKHLD = the total proportion of outstanding shares of blockholders who hold at least five percent of outstanding shares and are not affiliated with management.

\*, \*\*, \*\*\* Significant at the .10, .05 and .01 levels, respectively. The *p*-values are one-tailed for the directional hypotheses and two-tailed otherwise.

<sup>a</sup>Coefficient estimates with the *t*-statistics are in parentheses. Standard errors are corrected using the White (1980) procedure.

Table 5  
Logit regression results – additional analyses

Variable	Predicted sign	Logit4 <sup>a</sup>	Logit5 <sup>a</sup>	Logit6 <sup>a</sup>	Logit7 <sup>a</sup>
Intercept		1.98 (.82)	1.52 (.66)	2.11 (.96)	1.25 (.43)
POSBOD	–	-5.09 (-1.79)**	-5.04 (-1.77)**	-4.14 (-1.50)*	-4.84 (-1.78)**
STOCKOD	–	.01 (.72)			
OUTTEN	?		.024 (.63)		
DIRSHIP	?			-.50 (-1.67)*	
SIZEBOD	+				.07 (.31)
GROWTH	?	-.01 (-.03)	-.01 (-.04)	-.03 (-.09)	-.02 (-.04)
TROUBLE	?	-2.03 (-1.27)	-1.49 (-1.06)	-2.11 (-1.49)	-1.20 (-.63)
AGEPUB	?	.10 (2.54)**	.10 (2.45)**	.12 (2.66)***	.10 (2.49)**
MTOWBOD	?	.01 (1.81)*	.01 (1.71)*	.01 (1.72)*	.01 (1.61)*
CEOTEN	?	-.10 (-.84)	-.10 (-.90)	-.08 (-.78)	-.10 (-.95)
BLKHLD	?	.01 (1.13)	.01 (1.22)	.01 (1.07)	.01 (1.00)
Pseudo R <sup>2</sup> (%)		28.90	29.59	31.97	29.01
Number of observations		32	32	32	32

Variable definitions: POSBOD = the proportion of board members who are non-employee directors; STOCKOD = the cumulative proportion of common stock of the corporation held by outside directors; OUTTEN = the average tenure of outside directors on the board; DIRSHIP = the average number of directorships in other corporations held by outside directors; SIZEBOD = the number of members on the board of directors; GROWTH = the proportional change in total assets for the two years before the year of the corporate tax aggressiveness; TROUBLE = a dummy variable that takes a value of 1 if the company reported at least three annual net losses in the six-year period preceding the first year of the tax aggressive activity and 0 otherwise; AGEPUB = the number of years that the corporation's shares have been traded on the stock exchange; MTOWBOD = the cumulative proportion of ownership of the corporation held by insiders (e.g., managers) who serve on the board; CEOTEN = the number of years that the CEO has served as a director; and BLKHLD = the total proportion of outstanding shares of blockholders who hold at least five percent of outstanding shares and are not affiliated with management.

\*, \*\*, \*\*\* Significant at the .10, .05 and .01 levels, respectively. The *p*-values are one-tailed for the directional hypotheses and two-tailed otherwise.

<sup>a</sup>Coefficient estimates with the *t*-statistics in parentheses. Standard errors are corrected using the White (1980) procedure.