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## Corporate ownership, governance and tax avoidance: An interactive effects

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### Abstract

Although tax avoidance practices are as old as taxes themselves, the ways they are being perpetrated among corporate taxpayers have transmuted so sophisticated in recent times. This study thus proposes models for empirical investigations into the relationship between corporate ownership structure and corporate tax avoidance in Malaysia. It was argued, based on cost/benefits consideration of tax avoidance, that family; foreign and government ownerships could be associated with corporate tax avoidance among Malaysian listed companies. The study further proposes that strong governance mechanism could mitigate such association. Two econometrics dynamic panel data models are proposed for the investigation. Generalized Method Moment (GMM) estimator is recommended as the estimation method.

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**Keywords:** Corporate tax avoidance; ownership structure; corporate governance; developing economies; generalized method moment (GMM)

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### 1. Introduction

The issues of tax avoidance have been problems since the inception of tax legislations and are prevalent in every society where taxes are levied (Andreoni, Erard & Feinstein, 1998; Uadiale, Fagbemi & Ogunleye, 2010; Verboon & Dijke, 2007). This menace is even more prevalent among corporate taxpayers given the magnitude of

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the company income taxes. The fact that taxes take away greater proportion of the firms' pre-tax earnings and subsequently reduce their distributable profits could be a reason for the endless war against corporate tax avoidance<sup>†</sup>. While there are several anti-avoidance laws in almost every country, corporations around the world do employ expensive accountants to find increasing complicated ways of paying less taxes (Daily Mail, 2010). As such, Hundal (2011) argued that corporate tax avoidance seems to be the most challenging issue of our generation as it represents a serious loss of revenue to the governments of many developed and developing economies.

Several studies have therefore been conducted to understand the determinants of tax avoidance among corporate taxpayers. These studies have examined several factors such as firm size and scale of international operations (Rego, 2003; Richardson & Lanis, 2007; Zimmerman, 1983), capital intensity, leverage (Noor, Mastuki & Bardai, 2008; Richardson & Lanis, 2007; Stickney & McGee, 1982), executives' roles and their compensations, industrial membership (Mahenthiran & Kasipillai, 2012; Shevlin & Porter, 1992), the legal form of organization (Tedds, 2006) and political connections (Adhikari, Derashid & Zhang, 2006) to understand the variations in firms' tax burdens across industry. However, the studies assume that firms make their tax reporting decisions with no agency consideration and influence from the board (i.e. given consideration to organizational legitimacy). They, therefore, provide little insight to the determinants of tax avoidance in a corporate setting where there is a segregation of ownership from control and legitimacy issues.

Given this backdrop, Shackelford and Shevlin (2001) called for the investigation of ownership structure as likely determinant of corporate tax avoidance given its importance in the corporate setting. Afterward, Chen, Chen, Cheng and Shevlin (2010) and Landry, Deslandes, and Fortin (2013) documented negative relationships between family ownership and corporate tax avoidance in US and Canada respectively. Also, government ownership has been established to be related to tax avoidance in varying directions (Adhikari et al., 2006; Chen, Mo and Zhou, 2013; Kim & Zhang, 2013; Law, Yuan, McIver & Burrow, 2012; Mahenthiran & Kasipilal, 2012; Wu, Rui & Wu, 2013; Zhang & Han, 2008). Similarly, Demircuc-Kunt & Huizinga (2001); Egger, Eggert & Winner (2010); Kinney and Lawrence (2000) and Law et al., (2012) have documented consistently positive relationship between foreign ownership and tax avoidance.

On the other hand, various attributes of the board have been documented to impact corporate tax avoidance. For instance, Minnick and Noga (2010) found a negative significant relationship between board composition and corporate tax avoidance among S&P 500 firms. A similar negative relationship between the two variables was documented by Lanis and Richardson (2011) among Australian companies. Also, Vafeas (2010) found a negative relationship between board composition and corporate tax avoidance among Fortune 500 companies. However, Mahenthiran and Kasipilal (2012) found a significant negative but partial relationship between the two variables among Malaysian listed companies. These findings suggest the mitigating effect of the board on company's tax avoidance activities.

While the studies so far have investigated the relationship between corporate tax avoidance and these various forms of corporate ownership, the joint effect of the three forms of ownership has not been investigated. It is a known fact that these forms of corporate ownership do overlap in the corporate environment given the public nature of these companies. It will therefore be worthwhile to investigate the joint effect of these forms of corporate ownership on corporate tax avoidance to better our understanding of the latter. In addition, the documented negative impact of board composition – a measure of board independence – on corporate tax avoidance suggests the potential intervening role of corporate governance on the relationship of corporate tax avoidance with these forms of corporate ownership. Thus, investigating the interactive effect of corporate governance on such relationship will further enhance our understanding on the behaviours of the corporate taxpayers. Thus, our study is unique in proposing econometric models for investigating the joint effect of the three forms of corporate ownership on corporate tax avoidance with corporate governance's interaction.

The nature of corporate ownership in Malaysia provides a fertile ground for this investigation. Besides the concentrated nature of her corporate ownership, the three forms of ownership are also prevalent in the Malaysian business environment. According to Claessens, Djankov and Lang (1999), 67.2% of the public listed companies

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<sup>†</sup> The term corporate tax avoidance is defined, in line with Dyremg, Hanlon and Maydew (2008) and Hanlon and Heitzman (2010), as the reduction in the explicit corporate tax liabilities. The term is used throughout this paper though it could be interchangeably used with tax management, tax planning and tax aggressiveness (Tang and Firth, 2011).

were family-owned and a proportion of 28.3% of market capitalization is in the hand only 15 families. Also, Government Linked-Companies (GLCs) have an approximated 36% of the Bursa Malaysia market capitalization with 54% composite index (Khazanah, 2012). The country also witnessed an increase of 30% in the amount of foreign direct investments (FDIs) from \$9.1 billion in 2010 to \$11.9 billion in 2011 (MIDA, 2012). A preliminary investigation into the ownership structure of the top hundred companies listed on Bursa Malaysia in 2011 further revealed that 29% of the companies have both government and family ownerships and 19% have both government and foreign ownerships.

The remaining parts of the paper are organised as follows: section 2.0 provides the literature review and thus covers issues like the benefits and costs of tax avoidance; corporate ownership and corporate tax avoidance; and corporate governance. Section 3.0 gives the proposed empirical method of the paper which the sample source of data; modals specification and variables measurements; and the proposed estimation method. Section 4.0 presents the conclusion of the paper.

## 2. Literature review

The fact that taxes are deductions from the cash flows available to a firm, and hence the dividends distributable to the shareholders, suggests that firm owners would strive to maximize their wealth through various tax avoidance practices. However, such benefit of increased cash flows from tax avoidance practices is accomplished with certain non-tax costs. This demands the costs/benefits consideration of such practices and the choice of tax avoidance if the benefits outweigh the associated costs. Thus, the benefits and the associated costs with corporate tax avoidance are discussed here. Prior to this discussion, little insights are provided on the meaning and measures of corporate tax avoidance to give proper ground for the discussion.

### 2.1 *Meaning and measures of corporate tax avoidance*

The term corporate tax avoidance lacks universal definition as it might connote “different thing to different people” (Hanlon & Heitzman, 2010:137). The fact that there is consequential tax effects for every transaction of a company, meant to increase its profit, could account for such lack of universal definition. Given this, they have been several definitions of corporate tax avoidance put forward by researchers in recent times (for a review of these definitions see: Salihi, Sheikh Obid & Annuar, 2013; Salihi 2014). Here, we define corporate tax avoidance as a reduction in the explicit corporate tax liabilities. This definition is in line with Hanlon and Heitzman (2010) that describe tax avoidance “as a continuum of tax planning strategies where something like municipal bond investments are at one end (lower explicit tax, perfectly legal), then terms such as ‘noncompliance’, ‘evasion’, ‘aggressiveness’, and ‘sheltering’ would be closer to the other end of the continuum” (p. 137). Thus, the terms such as tax management; tax planning; tax sheltering; and tax aggressiveness are interchangeably used with tax avoidance in the literature (see for instance: Chen et al. 2010; Lanis & Richardson, 2011; 2012; Minnick & Noga, 2010; Tang & Firth, 2011).

Similar to its definition, they have been several measures<sup>‡</sup> of corporate tax avoidance used in the prior literature. These measures are mostly based of the estimates from the financial statements and could be classified into three groups. The first group includes those measures that consider the multitude of the gap between book and taxable income. These comprise of total book-tax gap; residual book-tax gap and tax-effect book-tax gap. The second group has to do with those constructs that measure the proportional amount of taxes to business income. These include effective tax rates (this comes in several variants like accounting ETR; current ETR; cash ETR; long-run cash ETR; ETR differential; ratio of income tax expense to operating cash flow; and ratio of cash taxes paid to operating cash flow). The third group involves other measures such as discretionary permanent differences (PERMIDIFF)/DTAX; unrecognized tax benefits (UTB); and tax shelter estimates.

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<sup>‡</sup> For in-depth discussions on the measures of corporate tax avoidance based on financial statements estimates and the studies that have used each measure refer to Salihi et al. (2013).

Despite this plethora of measures of corporate tax avoidance used in the tax literature, its conforming aspect remains uncaptured as most of the measures are computed based on items that are affected by accrual accounting procedures. To this end, Hanlon and Heitzman (2010) suggested a measure for conforming tax avoidance as the proportion of cash tax paid to operating cash flow. Salihu, Shiekh Obid and Annuar (2013) documented the significant difference of this measure from other similar measures. This study proposes the use this measure for the empirical investigation given the context<sup>§</sup> of the study.

## 2.2 *Benefits and costs of tax avoidance practices*

The most obvious benefit of being tax avoidant is the cash savings from the taxes avoided. The cash savings lead to increased cash flow to the firm which offers it the opportunities for further investments and in turn increases the firm's value. The shareholders' wealth is also enhanced in terms of more dividends, and increased shares value. The managers are also not left out of these benefits given the compensations for effective tax management. In fact, the managers' compensations are determinants of tax avoidance practices in most cases.

As such, several studies have documented the links between tax avoidance and managers' incentives looking from different perspectives. For example, Phillips (2003) found that compensating managers based on after-tax results is associated with lower effective tax rate (ETRs). Similarly, Slemrod (2004) developed a model for the link between tax avoidance and manager compensation. A similar model development was carried out by Desai and Dharmapala (2006) wherein equity-based incentives are theoretically linked with tax avoidance. Both models suggested a link between tax avoidance practices and managers' compensations. Using a different approach, Frank, Lynch and Rego (2009) found a link between earnings management and tax avoidance. This suggests that the managers are being compensated for effective tax planning. More empirically, Rego and Wilson (2010) documented a positive relationship between tax aggressive planning and option vega for managers. Further, Robinson, Sikes, and Weaver (2010) documented that firms with tax departments treated as profit centres pay fewer amounts of taxes. This means that tax managers are compensated for tax avoidance. However, a study by Armstrong, Blouin, and Larcker (2012) documented no relationship between tax directors' compensations and tax avoidance. The authors concluded that tax matters are influenced more by the top management team than the tax director as an individual.

These reported studies show that managers are being compensated for tax planning based on the tax savings from the taxes avoided. However, it has been argued that the nature of the compensation contracts between the fund providers and professional managers seems incomplete. This is because the owners lack the full knowledge of the tax planning activities of the managers (Armstrong et al., 2012) which gives rooms for hidden actions that may be detrimental to the very existence of the firm (Crocker and Slemrod, 2005). The second reason for this is that tax avoidance activities are mostly illegal, which are not enforceable in court of law. Thus, the case of a breach of contract is left for moral consideration (Chen and Chu, 2005). Accordingly, Chen and Chu (2005) argued that tax avoidance leads to loss of internal control in case the managers act selfishly given the incomplete nature of the contract. It could therefore, be said that despite the compensations for effective tax management, managers may still pursue their personal interests through tax planning.

This notion of personal interest of managers in tax planning was further investigated in Desai and Dharmapala (2006). The authors argued that, with high-powered incentives, managers tend to avoid more taxes without resources' diversion in the better governed firms. They, therefore, concluded that tax avoidance and rents extraction are complementary and that the structure of corporate governance could mediate this interaction. Their study suggests a new form of agency cost for tax avoidance. It could be said that the general notion about tax avoidance as a transfer of wealth from government to shareholders is questionable in the corporate setting.

Apart from this agency cost of tax aggressiveness and the loss of internal control highlighted above, there are other non-tax costs associated with corporate tax avoidance activities (Scholes, Wolfson, Erickson, Maydew & Shevlin, 2005). Besides the opportunity costs of the fund used for tax management, one most significant non-tax

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<sup>§</sup> The capturing of conforming tax avoidance within the context of the present study is very crucial as corporate ownership is highly concentrated with less capital market pressure, thus, firms could place less importance on accounting earnings' reporting and as such try to conform their book and tax treatments. Consistent with this, Adhikari, Derashid and Zhang (2005) found the practice of reducing the book income prior to changes in corporate tax rate among Malaysian large companies.

cost is the likely penalty that may be imposed by the tax authority (Chen et al., 2010). This may arise after the firm's avoidance activities are detected through the tax audit conducted by the authority. While the additional tax payments and fines imposed by the tax authority may affect the cash flow available to the firm, their impacts are more on the firm's reputation.

The reputational risks of tax avoidance have dual effects on the firm's existence. First, the organizational legitimacy of the firm is being questioned by the general public. The general public perceives a legitimate firm to be socially responsible by contributing to the economic well-being of the society wherein it operates (Christensen and Murphy, 2004). Thus, any act of tax avoidance may threaten the very existence of the firm (Preuss, 2010). However, this could only happen when the public becomes aware of the existence of such social irresponsibility provided there are mechanisms for public information access. Second, the other shareholders could also react by discounting the firm's share prices when they perceive the managers to be using the tax avoidance activities to mask rent extraction (Desai & Dharmapala, 2006). Although, the shareholders stand to benefit from tax savings coming from taxes avoided, the complementary nature of tax avoidance and rent extraction always put them in a dilemma in favouring tax avoidance practices. Thus, the outside shareholders usually perceive the potentiality of rent extraction whenever taxes are avoided (Chen et al., 2010). Consistently, empirical studies have documented supports for this notion. For instance, Desai, Dyck and Zingales (2007) found an increase in market values of companies that faced high level of enforcement on tax compliance in Russia. More explicitly, Hanlon and Slemrod (2009) documented a sharp decline in the share prices of companies with information about tax aggressiveness through the public media.

However, the reactions of the shareholders are more pronounced in a less-concentrated ownership setting with efficient capital markets that serve as the mechanism for minority shareholders' protection. But in a concentrated ownership environment with an emerging market, the reactions of the other shareholders might not be felt seriously. This is because the firms have little incentives for public legitimacy as they seek little or no fund from the markets. Therefore, the costs and benefits of tax aggressiveness for firms may differ depending on the nature of ownership structure. This accounts for one of the reasons Shackelford and Shevlin (2001) argued for ownership structure as a potential determinant of tax avoidance. The other reason is the fact that corporate ownership is a 'core issue in corporate governance' (Hua & Zin, 2007:34) and determines the nature of the agency problems arising in the corporate environments.

Summarily, while tax aggressiveness benefits the firm and shareholders in form of tax savings, the potential non-tax costs associated with it may also be large depending especially on the structure of corporate ownership and control. These non-tax costs include loss of efficiency in internal control, agency costs of rent extraction, potential penalty, potential price discount and damage to organizational legitimacy.

### *2.3 Corporate ownership and corporate tax avoidance*

Given the argument to investigate ownership structure, corporate governance as a potential determinant of corporate tax avoidance, this paper proposes econometric models for investigating the associations of three forms of ownership with corporate tax avoidance in Malaysia together with corporate governance interactive effects. The models are developed with regards to the benefits and costs of tax avoidance in a concentrated ownership setting with an emerging market discussed above. Three forms of corporate ownership are proposed for investigation. These are family, government and foreign ownerships. The reasons for these forms of ownership and the likely relationship with corporate tax avoidance including that corporate governance are detailed out as follows.

#### *2.3.1 Family ownership and tax avoidance*

The structure of family businesses has a different and unique agency conflict with reference to costs and benefits of tax avoidance and requires further investigations. The appointment of executives on the board of family businesses is largely influenced by the family members for continuous maintenance of their relevance in the control of the firm (Peng & Jiang, 2010). This influence suggests the congruence of interests of the firm's owners and that of the hired managers. To put differently, there is an alignment of both interests. Given this, tax savings

from the taxes avoided and/or rent extraction through managerial opportunism serves as benefits of tax avoidance for family firms (Chen et al., 2010).

However, there is the presence of the principal-principal agency problem between the majority and the minority shareholders (Young et al., 2008). This suggests the likelihood of share price discount by the minority shareholders which represents a cost of tax avoidance for family firms. In addition to the reduction in share price, potential penalty imposed by tax authority and damage to organizational legitimacy constitute another cost of tax avoidance for family firms. It is therefore, reasonable to conclude that the costs and benefits of tax avoidance are both large for family firms.

However, the associated costs of tax avoidance practices are less than the benefits for family firms in a concentrated ownership environment. The potential share price discount by the minority shareholders may not be visible in a concentrated ownership environment due to emerging nature of the capital market. Thus, the only likely cost of tax avoidance for family firms in such a setting is the potential penalty imposed by the tax authority. Although, this may have effect on the cash flow of the family firms, its reputational effects seem less as they seek little capital from the market because of the presence of major shareholders who provide the required funds. However, it is unclear empirically whether family firms are tax avoidant in a concentrated ownership setting such as Malaysia (Liew, 2007; Thillainathan, 1999) given the likelihood of the benefits outweighing the costs. Thus, this paper proposes a positive relationship between family ownership and corporate tax avoidance.

### 2.3.2 *Government ownership and tax avoidance*

The presence of government ownership of shares in companies characterized such companies as Government-linked Companies (GLCs) (Lau & Tong, 2008). The benefits of tax avoidance seem higher for GLCs than the associated costs. While the GLCs benefit from the increased cash flows from the taxes avoided, the only feasible cost of tax avoidance for these companies is potential rent extractions by the managers. This is because the companies are not directly managed by the government. As for the issue of share price discount, GLCs are not subject to capital market scrutiny as they seek little capital from the market given the timely interventions by the government (Mohd Ghazali & Weetman, 2006; Naser & Nuseibeh, 2003). Also, the potential penalty imposed by tax authority resulting from tax audit exercise is not feasible for GLCs because of their political connections (Faccio, Masulis & McConnell 2006).

However, it is quite surprising that there is a lack of studies examining the effects of government ownership and tax avoidance, especially in the developed economies. The plausible reason could be the absence of such form of ownership in those economies. For developing economies, like Malaysia, government involvements in business activities cannot be ruled out as the nature of the capitalism tends to be relationship-based and rather than market-based (Adhikari et al., 2006; Gomez, 2002). As such, studies like Chen et al. (2013); Kim and Zhang (2013); Law et al. (2012); Wu et al. (2013); and Zhang and Han (2008) investigated the relationship between government ownership and corporate avoidance in China and documented negative relationship except for Zhang and Han (2008).

In Malaysia, Adhikari et al. (2006) and Mahenthiran and Kasipilai (2012) investigated similar relationship among Malaysian listed companies but with divergent findings. These divergent findings need further investigation given the cost/benefits analysis above. This paper thus proposes a positive relationship between government ownership and corporate tax avoidance in Malaysia based on the cost/benefits analysis of tax avoidance.

### 2.3.4 *Foreign ownership and tax avoidance*

Foreign ownership of shares has been associated with high profitability and efficiency (D'souza, Megginson & Nash, 2001; Smith, Cin & Vodopivec, 1997). However, the presence of foreign investors has been linked with tax aggressive practices (Christensen & Murphy, 2004). Empirically, US multinational companies are found of paying low taxes in their host countries despite their high profitability level (Grubert & Mutti, 1991; Hines & Rice, 1994; Kinney & Lawrence, 2000).

Despite this, the relationship between foreign ownership and tax avoidance has only being studied outside the developed nations by Demircuc-Kunt and Huizinga (2001). Using data generated from eighty countries across the Globe and focusing on the banking sector, the authors found that the foreign banks pay lower taxes than their

domestic counterparts in the host countries. While this study provided an insight to the effects of foreign ownership on tax avoidance contrary to the general notion that foreign investors always conform to international best practices, the finding is limited to the banking sector. It is therefore important to have insight into the effect of this form of ownership on tax avoidance within the host countries such as Malaysia given the inflow FDIs into the country. The paper therefore proposes a positive relationship between foreign ownership and corporate tax avoidance in Malaysia.

#### 2.4 Corporate governance and corporate tax avoidance

The characteristics of the board of directors have been argued to be most effective mechanism in management monitoring (Ibrahim, Howard & Angelidis, 2003). As such, studies have documented the effect of board characteristics on corporate tax avoidance (Minnick & Noga, 2010; Lanis & Richardson, 2011; Vafeas, 2010). This paper therefore proposes the interactive effect of board composition on the relationships between corporate ownership and corporate tax avoidance.

### 3. Empirical method

This section details out the proposed empirical research methods for this study. These include the sample selection and the justification for such selection. The empirical model specification, variables' measurements and the model estimation method are also discussed here.

#### 3.1 Sample source of data

The Malaysian companies listed on the main market of Bursa Malaysia are targeted as the source of data for the proposed investigation. It is believed that these companies are under the strict monitoring of the Board and they need to meet all its listing requirements. The study proposes a time-frame of five years from 2009 to 2013. These years are focused given the steady rate of corporate tax at 25% over the period.

#### 3.2 Models specification and variables measurement

Given the dynamic nature of the panel data described above and in line with Minnick and Noga (2010), this study imposes a standard linear relationship between corporate tax avoidance and the explanatory variables with some control variables documented to influence firms' tax burdens in prior studies. The first model is written as:

$$CTA_{it} = \alpha_i + YCTA_{it-1} + \beta_1 family_{it} + \beta_2 government_{it} + \beta_3 foreign_{it} + \beta_4 fsize_{it} + \beta_5 profit_{it} + \beta_6 lev_{it} + \beta_7 capint_{it} + \varepsilon_{it} \quad (1)$$

The subscripts  $i$  and  $t$  denote firms and year respectively. CTA is corporate tax avoidance measured as the proportion of cash tax paid to operating cash flow.  $\alpha_i$  is the constant term,  $Y$ ,  $\beta_1$  to  $\beta_7$  are slopes to be estimated and  $\varepsilon$  is the error term of the model. *Family* denotes family ownership and measured as the proportion of family members on board (Wan-Hussin, 2009). *Government* stands for government ownership and it is to be measured as percentage of shares owned by government institutions to the total shareholding of the companies (Mohd Ghazali & Weetman, 2006). *Foreign* means foreign ownership and measured as the proportion of companies' shares held by foreign investors (Mohd Ghazali, 2010). Firm size, profitability, leverage and capital intensity are control variables found to impact firms' tax burden. These are denoted as *fsize*, *profit*, *lev* and *capint* respectively. *Fsize* is measured as the natural logarithm of firms' total assets, *profit* as return on assets (ROA), *lev* as total debt to total asset and *capint* as property, plants and machinery to total assets. These measures are similar to those found in studies like Adhikari et al., (2005); Chen et al. (2010); and Derashid and Zhang, (2003). The coefficient of lagged dependant variable,  $Y$ , is expected to be positive. Going by the proposed direction of the relationships  $\beta_1$  to  $\beta_3$  are

expected to be negative. Similar negative signs are also expected for  $\beta_4$  to  $\beta_7$  based on the findings in prior studies (Adhikari et al., 2005; Chen et al., 2010; Derashid & Zhang, 2003).

The second model for investigating the interactive effect of corporate governance is given as follows:

$$CTA_{it} = \alpha_i + YCTA_{it-1} + \beta_1 family_{it} + \beta_2 government_{it} + \beta_3 foreign_{it} + \beta^*_1 (family_{it} \times Boardcom_{it}) + \beta^*_2 (government_{it} \times Boardcom_{it}) + \beta^*_3 (foreign_{it} \times Boardcom_{it}) + \beta_4 fsize_{it} + \beta_5 profit_{it} + \beta_6 lev_{it} + \beta_7 capint_{it} + \varepsilon_{it} \quad (2)$$

Where *boardcom* denotes board composition and it is measured as the proportion of independent non-executive directors on board (Esa & Mohd Ghazali, 2012). If corporate governance has an interactive effect on the relationships of the forms of corporate ownership and corporate tax avoidance, the signs of the coefficients ( $\beta^*_1$ ,  $\beta^*_2$  and  $\beta^*_3$ ) are expected to be positive and statistically significant while the coefficients ( $\beta_1, \beta_2$  and  $\beta_3$ ) remain positively significant.

The inclusion of the lagged dependant variable  $YCTA_{it-1}$  is to take care of potential endogeneity of the explanatory variables. Three sources of endogeneity in corporate finance-related studies have been identified as omitted variables, simultaneity and measurement errors (Robert & Whited, 2012). Wintoki, Linck and Netter (2010) argued that most internal corporate governance researches are with endogeneity issues which many researchers take less cognizance of. Thus, Minnick and Noga (2010) considered endogeneity to be present in corporate tax management issues. In line with this argument, this study controls for potential endogeneity and that accounts for the choice of the models above (eq. 1 & 2). The likely source of endogeneity in the present study is simultaneity. While the presence of the other two identified sources in Robert and Whited (2012) - omitted variables and measurement errors - cannot be deemphasized, simultaneity is the most feasible source in the context of tax management. The prior year avoidance strategies of a tax avoidant firm do transcend to the subsequent year. The possibility of this transcendental effect gets increase under self-assessment system. Under the self-assessment system in Malaysia, corporate taxpayers are expected to estimate their tax liabilities and submit same to the Inland Revenue Board of Malaysia given the current-year basis of assessment. The estimated tax liabilities should not less than 85% of the prior year estimate or revised estimate. The companies are also allowed to revise these estimates during the assessment period. This makes the companies tax planning activities continuous yearly and the likelihood of prior year's avoidance strategies extending to the current year. As such, the empirical model above control for this endogeneity and assumes the exogeneity of the regressor.

### 3.3 Estimation method

Given the dynamic nature of the panel data, the standard pooled regression model, fixed or random-effect models will be seriously biased given the presence of firm specific effect and the lagged dependant variable (Ibrahim & Law, 2013). These models will be biased due to the serial correlation of the error term. Even when it is assumed that the error term is not auto correlated, the models will still be biased and inconsistent given the likely correlation of the lagged dependent variable with the error term (Nickell, 1981). The use of generalized method of moment (GMM) estimator has been advocated in this situation (Arellano & Bond, 1991). With GMM, the specific firm effects or time-invariant effects could be easily eliminated and the likely autocorrelation of the error term created by first-order difference could also be wiped off through the second-order difference. Specifically, Blundell and Bond (1998) recommended the use of system GMM in place of the difference GMM when the time period in panel data is small. Thus, this study proposes the use of system GMM estimator for the analysis of the above model given the three years' time period. The approach is similar that of Minnick and Noga (2010) and Wintoki et al. (2010).

#### 4. Conclusion

The present paper proposes econometrics models for the study of the likely determinants of corporate tax avoidance in a concentrated ownership setting with an emerging market. Specifically, the proposal focuses on the link between corporate ownership structure and corporate tax aggressive planning and identifies three forms of corporate ownership that could be associated with tax aggressiveness. The identification was premised on the potential costs and benefits of tax aggressiveness looking from theoretical perspective. The paper proposes the likely interactive effect of corporate governance on such associations. The relevance of both agency and legitimacy theories in understanding the corporate tax behaviour was also regarded. Summarily, family, government and foreign ownerships are proven as the potential determinants of corporate tax avoidance with potential interactive effect of board composition. The proposed models also considered some relevant control variables given their influences on firms' tax burden. It is hope that the proposed models could be tested empirically and findings being a useful guide for the selection of companies for corporate tax audit and investigation.

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