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Government Ownership and Corporate Tax Avoidance: Empirical Evidence from Malaysia

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Abstract

While there have been substantial improvements in the performance of Government-linked Companies (GLCs) in Malaysia in the recent past, their tax planning activities remain a mystery. With government supports, GLCs seem to benefit more from tax avoidance practices. Given this, and in line with the call on investigating the role of government ownership in corporate tax planning by Hanlon and Heitzman (2010), this study investigates the influence of substantial government ownership on corporate tax avoidance. The data for the investigation came from the top 100 Malaysian companies based on FTSE tradable index over a three-year financial period. The results of the system GMM estimation of the dynamic panel data models using four similar measures of tax avoidance show an inconclusive finding. The relationship between government ownership and corporate tax avoidance is documented for only two of the measures. A further qualitative enquiry through personal interview sessions with ten tax auditors of IRBM was conducted to better understand the scenario. The results of the analysis of responses show a similar inconclusive finding. It was therefore concluded that Malaysian GLCs are somehow complex in tax related matters. Following this conclusion, GLCs in Malaysia need to be more transparent in tax compliance matters to restore the public confidence.

Keywords: Government ownership, Corporate tax avoidance, Endogeneity, Generalized methods of moment, Malaysia.

1. Introduction

Tax avoidance has been a problem since the inception of tax legislations (Andreoni, Erard & Feinstein, 1998) and remains the most challenging issue of our generation, especially at corporate level (Hundal, 2011). For instance, a report by New York Time (NYT) reveals that General Electric – one of the American's largest corporations – not only paid zero tax on \$14.2 billion profits, but it actually received tax credits of \$3.2 billion and also asked the union workers to make wage and benefits concessions (Hundal, 2011). It has also been argued that sixty percent of Australian large companies do not pay their fair share of tax (Braithwaite, 1998). Of recent, forty-eight Australian corporations were accused of tax aggressiveness (Lanis & Richardson, 2011). The fact that company income taxes

take lion shares from the firms' pre-tax earnings which subsequently reduce the firms' distributable profits could be the reason for corporate tax avoidance activities¹.

The developing economies are not free from this menace. In fact we witness worst scenarios among these transitional economies. For example, sixty to sixty-five percent of the total illicit financial outflows among the developing countries were attributed to commercial tax non-compliance in a report by Global Financial Integrity in January 2011. Unfortunately, the report ranks Malaysia fifth among the developing economies with the most illicit financial outflows. This serves as one of the major motivations for this study.

It should be noted that the prevalence of the corporate tax avoidance has spurred the studies of the determinants of the menace. Meanwhile, tax literatures historically took a long time to recognize the dichotomy between the individual and corporate taxpayers' non-compliance (Slemrod, 2004; Tedds, 2006). While most of these literatures focused on the individual taxpayer's behaviour, the available literatures on corporate tax planning before Chen and Chu (2005)² assumed that firms make their tax reporting decision with no agency consideration (Crocker & Slemrod, 2005).

Although, some of the factors that determine tax compliance at individual level, such as tax rates, the probability of detection and punishment, penalties and risk-aversion (Allingham & Sandmo, 1972; Duncan, Larue & Reckers, 1989) as well as intrinsic motivation (Slemrod & Yitzhaki, 2002) are also applicable to the corporate taxpayers (Hanlon & Heitzman, 2010). However, because of the separation of ownership from control in a corporate setting, additional issues, such as agency problems and loss of efficiency in internal control³ might arise (Slemrod, 2004). This is because tax avoidance involves some levels of complexity and obfuscation to prevent its detection by tax authority; it therefore creates room for managerial opportunism (Desai & Dharmapala, 2006a; 2008; 2009b). That is, a corporate tax reporting decision where the private interests of managers may preclude the owners' interests.

Thus, the general view of tax avoidance as a transfer of wealth from state to shareholders is questionable in the corporate environment due to the principal-agent relationship between shareholders and management (Desai, Dyck & Zingales, 2007). In line with this, Scholes, Wolfson, Erickson, Maydew and Shevlin (2005), Desai and Dharmapala (2006a) called for further studies on corporate tax avoidance with agency consideration and Chen and Chu (2005); Crocker and Slemrod (2005); Slemrod (2004), provided the theoretical foundations for incorporating agency related issues into corporate tax avoidance activities.

From the above discussion it becomes clear that, while tax avoidance may benefit the firm in form of increased cash flow, there are potential negative consequences related to it (Hanlon & Heitzman, 2010). Apart from the opportunity cost of the capital invested in tax management and the agency cost highlighted above, there are other non-tax costs associated with a firm's tax avoidance (Scholes et al., 2005), that need to be considered for tax effective planning. For instance, a firm may be forced to pay additional taxes and even penalties resulting from tax related lawsuit after being detected by tax authority. This has an adverse effect on the firm's reputation and a consequential negative effect on its stocks' prices (Hanlon & Slemrod, 2009)⁴. On the part of authorities, tax avoidance represents a loss to government revenue (Mahenthiran & Kasipillai, 2012) and additional regulatory cost to tax authority. However, in spite of these negative consequences of tax avoidance for shareholders and regulators, there is limited understanding of its determinants (Chen, Chen, Cheng & Shevlin, 2010). Accordingly, Shackelford and Shevlin (2001), in their review of empirical tax research in accounting, point out the need for further investigations of organizational factors, such as ownership structure and insider controls, as important determinants of corporate tax avoidance. One form of

1 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).

2 This was the first study to incorporate the agency consideration in corporate tax reporting in their seminal work (Chen & Chu, 2002) which was later published in RAND Journal of Economics in 2005.

3 Chen and Chu (2005) argued that the decision of tax evasion by firm's owners would lead to incomplete compensation contract between the owners and the managers, which in turn might lead to loss of efficiency in internal control.

4 For instance, Hanlon and Slemrod (2009) found a decline in the stock prices of companies, consequent to news about their involvement in tax shelters.

corporate ownership that has a unique agency conflict in relation to tax avoidance given its costs and benefits⁵ is government ownership. Government ownership of shares in private/privatized companies characterized those companies as Government-Linked Companies (GLCs) (Lau & Tong, 2008). With government's guaranteed returns and timely interventions, GLCs are not subjected to strict monitoring of capital market (Mahenthiran & Kasipillai, 2012; Naser & Nuseibeh, 2003) which results in the issue of information asymmetry (Mohd Ghazali & Weetman, 2006). This is because they have little incentive to disclose detailed information (including tax information)⁶ (Mohd Ghazali & Weetman, 2006: 232). This lack of capital market scrutiny thus, makes it impracticable for minority shareholders to discount the stock prices of such firms in reaction to their involvement in tax avoidance activities. In addition to this, there is also the absence of reputational risks associated with likely detection of tax avoidance and the consequential punishments because of their political connections (Faccio, Masulis & McConnell, 2006). Although the presence of agency cost of rent extraction may not be ruled out as these companies are not directly managed by the government, the potential benefits of tax avoidance seem higher than its associated costs for GLCs.

However, there is no conclusive empirical research finding on the relationship between government ownership and corporate tax avoidance⁷, despite the significant roles played by GLCs in the development of Malaysian economy (Lau & Tong, 2008:9). According to *Khazanah National Berhad*, the investing arm of Malaysian government, GLCs have an approximated 36% market capitalization and 54% composite index with an estimated 5% employment of the nation's workforce (Khazanah, 2012). Specifically, the GLCs' market capitalization rose to RM312 billion in October 2011 (BM news, 2011). Also, the performance of GLCs has recently increased considerably, especially after the implementation of GLC Transformation Programme (GLCT) in May 2004. For instance, there was a rise of 1.5 percent in the returns of the companies in this group, compared to Non-GLCs, with an annual growth of 14 percent (BM news, 2011). Thus, by having an insight into the effect of this form of ownership on corporate tax avoidance, we garner a better understanding of its social impact for the evaluation and enhancement of government business interventions.

Thus the study examines the relationship between substantial government ownership and corporate tax avoidance among Malaysian listed companies. Although, Adhikari, Derashid and Zhang (2006) and Mahenthiran and Kasipillai (2012) have provided some insights into this, the present study is unique in many ways. First, the study employs a measure advocated to capture the conforming tax avoidance. Second, the study focuses on the substantial ownership of government rather the wholesome government ownership commonly used in other studies. Third, the study controls for potential endogeneity in corporate tax planning which is not often controlled for in similar prior studies. Lastly, the study seeks the opinions of tax auditors to provide further explanations to the quantitative findings through interview protocols for better understanding of the tax impact of government ownership.

2. Literature Review and Hypotheses Development

2.1. Corporate Tax Avoidance

It should be noted that tax avoidance does not connote something improper ordinarily (Dyreng et al., 2008), since there are, and always be, loopholes in the tax laws, it all depends on how well a taxpayer could play the game of tax avoidance within the armpits of these laws. In fact, there are has been a commonly quoted court ruling long time ago encouraging companies to avoid taxes. The ruling given by Judge Learned Hand in 1934 in the popular court case of *Helvering v. Gregory*, wherein the

⁵ For detailed discussions on the costs and benefits of tax avoidance see: Salihu, Anuuar and Sheikh Obid (2013a).

⁶ Although tax information contained in the financial statements might not represent the actual tax liability or taxable income disclosed to the tax authority, the incentive to disclose less information to the market of course takes precedence over that of tax authority.

⁷ While some studies, most of which conducted in China, have investigated the relationship between government ownership and corporate tax avoidance, only Adhikari et al. (2006) and Mahenthiran and kasipillai, (2012) have examined this relationship in Malaysian context. However, these two studies measure tax burden with various variants of ETRs that have been criticized of capturing only the non-conforming tax avoidance.

judge wrote: “Any one may so arrange his affairs that his taxes shall be as low as possible; he is not bound to choose that pattern which will best pay the Treasury; there is not even a patriotic duty to increase one’s taxes.”⁸

However, there is a thin difference between what could be classified as legal tax avoidance and the illegal tax evasion. While both are forms of tax non-compliance, the technicalities of the transactions around which avoidance or evasion behaviours are perceived are always legal. Secondly, the facts about any tax behaviour take precedence over its legal determination. As such, Weisbach (2003) views the classification of an avoidance as legal tax planning and an evasion as illegal tax planning by lawyers and economists as a quick action as the legality of any tax structure cannot be easily determined.

Thus, corporate tax avoidance is defined in a broad sense as the reduction in the explicit corporate tax liabilities (adapted from Dyring et al., 2008; Hanlon & Heitzman, 2010). With this all-inclusive definition, no distinction is made among intended tax benefits from lobbying, tax-deductible real activities and avoidance activities aimed at reducing tax liability. Furthermore, the nuance between illicit tax evasion and lawful tax avoidance is ignored for the two reasons given above and the fact that both tax evasion and avoidance results into loss of revenue to the government (Mahenthiran & Kasipillai, 2012).

2.2. Measures of Corporate Tax Avoidance

Several measures have been used in the prior studies for tax avoidance based on estimates from the financial statements. These measures could be categorically grouped into three – proportional amount of tax to business income; the multitude of the gap between accounting and taxable income and others. These measures could be summarized as follows:

2.2.1. Effective Tax Rate (ETR)

A widely used measure of tax avoidance is the ETR. It is utilized because ETR helps to estimate the effectiveness in companies’ tax planning activities (Mills, Erickson & Maydew, 1998; Phillips, 2003). While ETR is measured generally as the proportion of tax liability to accounting income, several variants have been documented in the literature. The various variants are discussed below.

(a) Accounting ETR

This is known as GAAP ETR in the US context. It is the reported ETR as per the financial statements. It is computed as the total tax expenses divided by the accounting income before tax. Thus, it reflects the aggregate proportion of the accounting income payable as taxes. It, therefore, measures tax avoidance relative to accounting earnings.

Although accounting ETR has been a widely used measure of tax avoidance, it does not go without certain limitations. Firstly, accounting ETR could only capture the non-conforming tax avoidance because it measures tax avoidance relative to accounting earnings. Secondly, it might not also reflect the strategies for tax deferral due to use of aggregate tax expenses.

(b) Current ETR

Slightly different from accounting ETR, current ETR is calculated as the current-year tax expense to the total accounting income before tax. It reflects the tax deferral strategies of a firm by using the current income tax as against the total tax expense, hence, its advantage over the accounting ETR.

Although, current ETR reflects firms’ deferral strategies, it could capture only the non-conforming type of tax avoidance. Also, both accounting and current ETR suffer the problem year-to-year volatility and cannot reveal long-term tax avoidance. An alternative to these two measures, found in the literature, is the long-run cash ETR.

(c) Long-Run Cash ETR

Long-run cash ETR is the proportion of cash taxes paid to the accounting income before tax. The use of cash amount of tax paid as opposed to tax expense help to minimize the likely effects of

⁸ *Helvering v. Gregory*, 69 F. 2d 809

items such as valuation allowance and tax cushions (Dyreng et al., 2008). Minnick and Noga (2010:709) also argue that cash tax measured “ETR takes into account the tax benefits of employee stock options, which accounting ETR does not”.

Besides this merit, long-run cash ETR also uses the tax information for multiple years (say 3-10 years, Hanlon & Heitzman, 2010:140) which helps to eliminate the volatility in the year level measures. It should be noted that the volatility in tax avoidance measurement is mostly caused by the timing differences between the treatments of certain items under financial and tax accounting (otherwise known as temporary difference). Dyreng et al. (2008) argue that over time, this volatility will disappear and tax avoidance should be measured using multiple year data instead of annual data.

(d) Income Tax Expense/Operating Cash Flow

The proportion of income tax expense to operating cash flow has been identified to better measure the tax burden of a firm (Zimmerman, 1983). It is argued that the substitution of accounting earning with operating cash flow helps to reflect the actual tax burden of a firm as “it excludes the effects of accrual accounting procedures” (Zimmerman, 1983:123). Similar argument is found in a much later study by Buijink, Janssen and Schols (2002).

While this measure overcomes the problem of using accrual accounting item as the denominator, the inclusion of the accounting income tax expense also suffers the effects of accrual basis. Thus, the measure also reflects only the non-conforming tax avoidance. Therefore, Hanlon and Heitzman (2010) proposed a measure which does not measure tax avoidance relative to accrual accounting. This measure is discussed next.

(e) Cash Taxes Paid/Operating Cash Flow

The ratio of cash taxes paid to the operating cash flow of a firm is believed to measure tax avoidance in such a way not relative to accrual accounting and hence the conforming tax avoidance (Hanlon & Heitzman, 2010). Salihu, Sheikh Obid and Annuar (2013) have documented a significant difference between this measure and other similar measures. Their findings thus substantiate the fact that the measure could capture what is not captured by other similar measures.

2.2.2. Book-Tax Gap (BTG)

The other group of tax avoidance measures focus on the magnitude of the difference between the accounting income and taxable income (book-tax gap). Although the causes of BTG are many and usually classified as permanent and temporary differences, the size of the gap suggests the presence of tax avoidance practices (Kim, Li & Zhang, 2011). To buttress the argument, Mills (1998) find a positive relationship between BTG and larger audit adjustment and tax audit among US firms. There are two commonly used measures of BTG to capture tax avoidance; these are total book-tax gap and residual book-tax gap.

Manzon and Plesko (2002) developed a model for measuring total BTG and Chen et al. (2010) use the model for the measurements of tax aggressiveness among US companies. As total BTG may also be affected by the firm's earning management practices, Desai and Dharmapala (2006) try to capture the unexplained portion of the total BTG, otherwise known as “abnormal total BTG” (Hanlon & Heitzman, 2010), and thus develop the residual BTG. This measure has been used to measure tax avoidance in Chen et al. (2010); Desai and Dharmapala (2009a); and Kim et al. (2011).

Another form of BTG is developed in Tang and Firth (2011). The measure is termed Tax-effect BTG. It is argued that commonly used BTG is an income-effect BTG, and it uses the general company income tax rate. As for tax-effect BTG, it is based on the difference between income tax expense and current tax expenses, and thus relevant in a business setting where firms are subjected to different tax rates.

2.2.3. DTAX

DTAX is ETR differential measure of tax avoidance. While ETR differential is the difference between statutory company income tax rate and a firm's ETR, the unexplained portion of ETR differential is captured in its differentiation developed by Frank, Lynch and Rego (2009). It was developed using the discretionary permanent difference (PERMDIFF).

2.2.4. Tax Shelter Measures

Wilson (2009) develops a model for determining tax sheltering firms. He uses the profile of the US firms accused of tax shelters in the study. The measure has been a useful guide in estimating tax avoidance practices. Armstrong, Blouin and Larcker (2012) employ the measures in their above-referred study. While this measure is useful in inferring tax avoidance, its development suffers “selection biases” (Hanlon & Heitzman, 2010:143). This is because of the sample of accused firms involved. While all tax sheltering firms may not be caught, many firms do avoid taxes without sheltering.

2.2.5. Summary

The review of the previously used measures of tax avoidance presented above shows that many of the measures could capture the non-conforming tax avoidance except for Hanlon and Heitzman (2010)’s proposed measure. While there are other measures for tax avoidance besides the ones reported, they are not being widely used among researchers

(a) The Malaysian Context

In Malaysia, while there is dearth of studies on corporate tax avoidance, studies like Adhikari, Derashid and Zhang (2005; 2006); Derashid and Zhang (2003); Kim and Limpaphayom (1998); Mahenthiran and Kasipillai (2012); Noor, Mastuki and Bardai (2008) have utilized measures such as accounting ETR; current ETR; long-run cash ETR; and the proportion of income tax expenses to operating cash flow to capture firms’ tax planning.

As noted earlier, these measures only capture the non-conforming tax avoidance and not appropriate in Malaysian context. It should be emphasized that corporate ownership is highly concentrated in Malaysia (Claessens, Djankov, & Lang, 2000; Liew, 2007). This suggests a less pressure from the capital market since firms’ owners have little incentive going to the market for capital. Given this, firms might place less emphasis on earnings reporting and thus conform the book and tax treatments of their business transactions to reduce their tax liabilities. Consistently, Adhikari et al. (2005) documented the use of accounting choices for tax reduction purpose among Malaysian large companies.

Thus, any construct of tax planning that measures tax avoidance relative to accrual accounting system would not be appropriate in Malaysian context. This gives the importance of capturing the conforming aspect of tax avoidance in this context for proper interpretation of research findings. Therefore, the present study uses the Hanlon and Heitzman (2010)’s measure together with other three similar measures to capture corporate tax avoidance comprehensively in Malaysian context.

2.3. Government Ownership and Corporate Tax Avoidance

Government ownership of shares in private/privatized companies characterized those companies as Government-Linked Companies (GLCs) (Lau & Tong, 2008). This form of ownership has a unique agency conflict in relation to tax avoidance in terms of its costs and benefits. With government’s guaranteed returns and timely interventions, GLCs are not subjected to strict monitoring of capital market (Mahenthiran & kasipillai, 2012; Naser & Nuseibeh, 2003) which results in the issue of information asymmetry (Mohd Ghazali & Weetman, 2006). This is because they have little incentive to disclose detailed information (including tax information) (Mohd Ghazali & Weetman, 2006: 232). This lack of capital market scrutiny thus makes it impracticable for minority shareholders to discount the stock prices GLCs. In addition to this, there is also the absence of reputational risks associated with likely detection of tax avoidance and the consequential punishments, because of their political connections (Faccio et al., 2006). Although, the presence of agency cost of rent extraction may not be ruled out as these companies are not directly managed by the government, the potential benefits of tax avoidance seem higher than its associated costs for GLCs. Thus, government ownership might be related to corporate tax avoidance, but in what direction.

Unfortunately, there is paucity of research examining the relationship between government ownership and corporate tax avoidance in the developed nations. This may be attributed to the lack of this form of ownership in such environments. In developed economies, such as US and UK, the nature of the capitalism tends to be market-based. It, therefore, suggests the absence of government’s involvements in business activities (Rajan & Zingales, 1998).

Despite the absence of the direct government ownership of shares of public listed firms in developed economies, the impacts of political connections on business activities are unavoidable. Given this, Kim and Zhang (2013) examined the relationship between political connections and corporate tax aggressiveness among US firms. Political connections were jointly measured as the presence of politically connected directors; the contribution to political campaign; and the firms' efforts for lobbying in public matters. Tax aggressiveness, on the other hand, was captured by DTAX; SHELTER; Desai and Dharmapala's abnormal book-tax difference; and Unrecognised Tax Benefits (UTB). With a sample of 32,898 firm-year observations for a period of eleven (11) years, the study documented positive and significant relationships of political connections with the measures of tax aggressiveness.

In most emerging economies, where the nature of the capitalism is relationship-based, government's interventions in business activities are inevitable. This gives raise to multi-faceted relation between politics and private economic activities (Adhikari et al., 2006; Gomez & Jomo, 1997; Gomez, 2002). As such government ownership is one of the unique features of "Malaysian corporate sector" (Mohd Ghazali, 2007:255) similar to other developing economies. As such some studies have investigated the relationship between government ownership of shares in private firms and corporate tax avoidance in developing economies. These studies are reported next in chronological order for a proper review and evaluation.

Zhang and Han (2008) investigated the tax avoidance practices of government and private controlled Chinese firms over a period of four financial years from 2002 through 2005. The study found state ownership to be positively and significantly related to the measures of corporate tax avoidance but private ownership was negatively related to these measures⁹.

Following the China's 2008 implementation of the New Enterprise Income Tax Law, Yuan, McIver and Burrow (2012) further examined the relationships of government and foreign ownerships with book-tax gap under the new regulatory environment. With 6,287 firm-year observations of 1900 Chinese companies, the study documented a reduced level of tax aggressiveness given the reduction in the tax rates. It was found also that government and foreign ownerships are not significantly related to corporate tax aggressiveness.

With reference to the same China's institutional environment, Wu, Rui and Wu (2013) investigated the reasons for higher tax burdens in the government controlled firms than the private firms in China. The study used a sample of 3,355 firm-year observations from Chinese listed firms over the period of eight financial years. It was documented that the grants of preferential tax treatments to the private firms operating in low privatization regions account for the low tax burdens among the private firms. Thus, the institutional environment explains why there are higher tax burdens for government controlled firms.

In another recent study on Chinese firms; Chen, Mo and Zhou (2013) examined how government ownership and corporate governance affect firms' tax aggressiveness in China. The study, thus, investigated the relationships among government ownership, corporate governance and tax aggressiveness using a sample of 6,032 firm-year observations covering the period from 2003 to 2009. It was found in the study that government ownership has a negative relationship with tax aggressiveness among Chinese firms.

The findings from the above reported studies suggest a negative significant relationship between government ownership and corporate tax avoidance in China. Although, Zhang and Han (2008) documented a positive relationship prior to the implementation of New Enterprises Income Tax Law in 2008, the findings from the recent studies (Yuan et al., 2012; Wu et al., 2013; Chen et al., 2013) consistently showed that there is a negative relationship between government ownership and corporate tax avoidance in China.

In Malaysia, Mahenthiran and Kasipillai (2012) examined the influence of government ownership on the tax policy strategies among 397 Malaysian listed companies for years 2007 and 2008. While the study measures tax burden using two variants of ETRs - accounting ETR and ratio of income tax expense and operating cash flow, its objective is to find out whether the ownership structure and firm's corporate governance reflects the special tax incentives offered to certain industries. Overall, the study provides the initial insight into the likelihood of government ownership as a potential determinant of corporate tax avoidance in Malaysia.

⁹ This finding was before the China's implementation of the New Enterprise Income Tax Law in 2008.

In this study, the authors found a significant positive relationship between government ownership and corporate tax avoidance strategies in a year level analysis but an insignificant relationship with long term tax planning over two years period. Thus, they concluded that government ownership of shares in public/privatized companies might not influence tax planning. Apart from this inconclusive relationship between government ownership and corporate tax avoidance found in this study, their measures of tax avoidance could not capture the conforming tax avoidance.

Previously, in a similar study on the factors that contribute to the variability of companies' ETRs, Adhikari et al. (2006) also considered government ownership (a proxy for political connection) as one of such factors. They, thus, examined the effects of government ownership on ETRs of 257 Malaysian companies over a period of ten years. Interpreting the results of the panel regression model, the study found that the companies with political connections (measured as government ownership) tend to pay lower taxes than their counterparts.

While the focus of the above study is not on corporate tax avoidance per se, its finding on the relationship between government ownership and ETRs may be relevant in that respect. However, the finding contradicts the conclusion of Mahenthiran and Kasipillai (2012) on the likely relationship of government ownership with corporate tax avoidance. Thus, there is a need to further investigate this relationship for better understanding of the determinants of corporate tax avoidance. Also, the measures of ETRs employed in both studies could only reflect the non-conforming tax avoidance, similar to the previous studies. Thus, this present study sets out to fill this gap by providing further empirical evidence on the relationship between government ownership of shares and conforming tax avoidance.

Based on the foregoing and given the fact the benefits of tax avoidance greater than the associated costs for the GLCs, the study hypothesis as follows:

H₁: *Substantial government ownership of shares is positively related to corporate tax avoidance among Malaysian listed companies*

3. Empirical Method

This section details out the empirical quantitative research methods adopted 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 sample source of data for this study comprises the companies on FTSE Bursa Malaysia Top 100 Index¹⁰. The index is used as an indicator for "the performance of the top-capitalized companies, which pass the size, free float and liquidity screens" (FTSE, 2013:15). Effective tax planning requires a large amount of resources and only large companies could provide such huge resources, given the opportunity costs of opting for tax avoidance (Dyreng et al., 2008; Huseynov & Klamm, 2012). Consistently, Adhikari et al. (2005) documented the use of earnings management practices for effective tax management among Malaysian large companies. These reasons account for the choice of the top 100 companies.

Similarly, studies on corporate tax avoidance like Minnick and Noga (2010); Vafeas (2010); Huseynov and Klamm (2012) focused on large companies on S&P 500 Index. Although, Chen et al. (2010) extended the sample to include companies on S&P 1500 Index, this study follows the majority of the prior researchers by focusing on the large companies.

The required data were extracted from the annual reports of these companies that were downloaded from the website of Bursa Malaysia (<http://www.bursamalaysia.com/market/listed-companies/company-announcements>) for the three financial periods of 2009 through 2011. The gradual reduction of the company income tax rate from 40% in 1988 to 25% in 2009, accounts for the choice of 2009 as the beginning period. As at the time of the data collection, the highest number of the companies only has their annual reports announced up to 2011. The required data were later hand-

¹⁰ The FTSE Bursa Malaysia Top 100 Index represents one the five tradable indices used to reflect the performance of the Bursa Malaysia's market. It comprises of the companies on FTSE Bursa Malaysia KLCI and the FTSE Bursa Malaysia Mid 70 Index. While 30 top-most companies are on the first index, the second has 70 companies, hence 100 companies.

collected from these companies' annual reports. Although the data collection process seems laborious, it helps guarantee the quality and the accuracy of the obtained information. The same method of data collection was used by Minnick and Noga (2010) for the measures of tax avoidance. The sample of 100 companies, however, excludes (1) 15 companies with incomplete data for the periods under consideration; (2) 5 companies with tax refunds or operating loss, given the likely distortion in the measurement of their tax burdens (Zimmerman, 1983); (3) 16 companies with negative operating cash flow; and (4) 1 company with one of the tax avoidance measures greater than one, to avert model estimation problems (Stickney & McGee, 1982). Thus, the final sample included 63 companies over the three financial periods. The total firm-year level observations of 189 were completed for the relevant variables.

3.2. Model Specification and Measurements of Variables

Given the dynamic nature of the panel data described above and in line with Minnick and Noga (2010), this study imposes a standard quadratic relationship between corporate tax avoidance measures and foreign ownership. Also, included in the model are some control variables documented to influence firms' tax burdens in prior studies. This model is written as:

$$\begin{aligned} CTA_{it} = \alpha_i + YCTA_{it-1} + \beta_1 govt_{it} + \beta_2 fsize_{it} + \beta_3 profit_{it} + \beta_4 lev_{it} + \beta_5 capint_{it} \\ + \varepsilon_{it} \end{aligned} \quad (1)$$

The subscripts i and t denote firms and year respectively. CTA is corporate tax avoidance, which is the dependent variable. Four measures of corporate tax avoidance are employed in this study. These are accounting ETR denoted as $CTA1$ and measured as the ratio of total tax expense to the total income before tax (Armstrong et al., 2012; Chen et al., 2010; Dydeng, Hanlon & Maydew, 2010; Huseynov & Klamm, 2012). Cash ETR coded as $CTA2$ and measured as the ratio of cash tax paid over the three years¹¹ financial periods to the total income before tax over the same period (Armstrong et al., 2012; Chen et al., 2010; Dydeng et al., 2010; Hope, Ma & Thomas, 2012; Huseynov & Klamm, 2012; Kim et al., 2011; Minnick & Noga, 2010). The ratio of total tax expense to operating cash flow (Zimmerman 1983; Lanis & Richardson, 2012) is represented as $CTA3$ and the proportion of cash tax paid to operating cash flow (Hanlon & Heitzman, 2010) denoted as $CTA4$. While the first three measures have extensively used in the prior studies, they only capture the non-conforming tax avoidance. Hanlon and Heitzman (2010) recommended the last measure for conforming tax avoidance. Given this suggestion, Salihu et al., (2013) compared the above four measures of tax avoidance and found the proposed measure to be statistically and significantly different from the other three measures. It is therefore believed that the combination of the four measures will provide a wholesome capture for corporate tax avoidance. α_i is the firm specific effect, Y , β_1 to β_5 are slopes to be estimated and ε is the error term of the model.

Substantial government ownership, the explanatory variable, is coded as $govt$ and is a dummy explanatory variable where 1 is assigned to a firm with up to 5% government ownership and 0 to firms with less than 5%. The 5% government ownership is considered substantial given the definition of substantial shareholding by Securities Commission¹². The Government ownership is measured as the numbers of shares held by government institutions or government – controlled bodies (Mohd Ghazali & Weetman, 2006:232). These include Employees Provident Fund, Armed Force Fund Board, Permodalan Nasional Berhad, Pilgrimage Fund Board and the National Social Security Organization of Malaysia and Kazanah Nasional (Mahenthiran & Kasipillai, 2012:10). The measure is similar to that of Mahenthiran and Kasipillai (2012); Mohd Ghazali and Weetman (2006); and Said, Zainuddin and Haron (2009).

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

11 Three years period is the minimum suggested period for the computation of long-run cash ETR according to Hanlon and Heitzman (2010:140).

12 The Securities Commission defines substantial shareholding as when a person holds not less than five percent of a firm's nominal amount of the voting shares, available on http://www.sc.com.my/eng/html/resources/press/2001/pr_20010806.pdf (accessed on July 30, 2013). The same definition is given in Section 69D of the Companies Act of 1965 (as amended).

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. If substantial government ownership is positively associated with tax avoidance, as hypothesized, β_1 is expected to be negative. Similar negative signs are also expected for β_2 to β_3 based on the findings in prior studies (Adhikari et al., 2005; Chen et al., 2010; Derashid & Zhang, 2003).

The inclusion of firm specific effect α_i and lagged dependant variable $YCTA_{it-1}$ is to take care of potential endogeneity of the explanatory variable. Three sources of endogeneity in corporate finance-related studies have been identified. These are 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 econometrics model above (eq. 1).

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 aggressive 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, the context of this study, 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 eighty-five of the prior year's estimates 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 autocorrelated, 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 of use system GMM in place of the difference GMM when the time period in panel data is small. Thus, this study employs the 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. Results

The descriptive statistics of the variables in this study are presented in table 1 below. For the dependent variables, accounting ETR has the highest mean of 22.68%. It suggests that Malaysian large firms have 0.2268 portion of their total income as tax liabilities. This proportion is similar the value of 22.49% found in Noor et al., (2008) another Malaysian study. The mean for the long-run cash ETR is 22.05% and has its value next to that of accounting ETR. With this, 0.2205 portion of the total income is the actual cash paid to IRBM as taxes. The ratio of income tax expense to the firms' operating cash flow has a mean 19.78%. That is 0.1978 portion of the operating cash flow is estimated out as income tax expense. The portion of the operating cash flow actually paid as tax is 0.1823. This is the mean of the ratio of cash tax paid to the firms' operating cash flow which is the proposed measure of tax avoidance. Generally, the means of the four measures are lower than the prevailing statutory company income tax of 25%. This suggests a low tax burden among the large companies. While this may be due

to the tax incentives granted to these companies, it could also signal the presence of tax aggressive planning. A similar deduction was made by Noor et al. (2008) based on their observation of low tax burdens among Malaysian listed companies. Additionally, the proposed measure seems to have the lowest mean and far lower than the statutory corporate income tax rate. As noted earlier, Salihu et al. (2013) documented the mean of this measure to be significantly different from the other measures. Thus, the measure might therefore capture what is not captured by the other measures.

For the explanatory variable, the perusal of the data shows that government owns substantially 10% of these large companies. Although the mean and standard deviation of the variable are not reported in table 1, this is because the variable is measured as dummy. The measure is chosen as we are interested in the substantial ownership of government. This is done to provide a better insight into the tax implications of this form ownership and substantiality could play a role in such implications.

Table-1. Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum
Dependent Variables					
Accounting ETR (<i>CTA1</i>)	189	.2268	.06717	.01	.41
Long-run cash ETR (<i>CTA2</i>)	189	.2205	.10072	.00	.56
Tax expense to operating cash flow (<i>CTA3</i>)	189	.1978	.07818	.01	.56
Cash tax paid to operating cash flow (<i>CTA4</i>)	189	.1823	.09315	.00	.61
Explanatory Variable					
govt*	189			0	1
Control variables					
Fsize	189	21.5749	2.1234	14.87	26.74
Profit	189	.1271	.1041	-.0109	.7164
Lev	189	.4432	.2041	.0201	.9249
Capint	189	.2989	.1926	.0040	.8638

* govt is a dummy variable. Thus, the mean and standard deviation are not reported.

On the control variables, table 1 shows a mean of 21.5749 for firm size. This indicates that the sampled companies are large. The companies are also profitable given a mean of 0.1271 for profitability. On the average, a profit of 12.71% is returned on the assets invested and that makes the companies tax liable. For the control variable, leverage, a value of 0.4432 is recorded as the mean. It suggests that 44.32% of the firms' total assets are financed through long-term debts. This is not surprising considering the size of the sampled firms. Capital intensity, which is the last control variable, has a mean of 0.2989 with maximum value of 0.8638. This further justifies the large nature of the sampled firms and also shows the relevance of this variable in influencing corporate tax burden given the tax incentives for such capital expenditures.

Table 2 reports the correlation matrix among the explanatory and the control variables discussed above. The correlations among these variables are expected but within certain limits. For instance, Gujarati and Porter (2009) set the magnitude of the correlation coefficient to be less than 0.8. All the values of the correlation coefficient reported in the table are within the threshold. Further tests of multicollinearity using variance inflation factor (VIF) and its inverse tolerance were also conducted to prove the statistical fitness of the data. The results for the tests as presented in table 3 show no multicollinearity problem among the variables as the values are less than the threshold of 10.0 for VIF and higher than 0.10 for tolerance (Gujarati & Porter, 2009; Hair, Black, Babin & Anderson 2009).

Table-2. Correlation Matrix among the explanatory and the control variables

	Govt	fsize	profit	lev	capint
govt	1				
fsize	0.2031	1			
profit	-0.2406	-0.1942	1		
Lev	0.0703	0.4319	-0.0521	1	
capint	0.0141	-0.1396	0.1163	-0.0790	1

Table-3. VIF and Tolerance

Variable	VIF	1/VIF
Govt	1.70	0.586898
Fsize	1.43	0.700380
Lev	1.34	0.748113
Profit	1.14	0.876482
Capint	1.04	0.966165
Mean VIF	1.33	

Table 4 presents the results of the system GMM estimator using the four measures of corporate tax avoidance. Four separate dynamic panel data models were run using each of the measures as the dependent variable. The coefficient of the lagged variable (Y) turns out as expected with a significant positive sign. As for the explanatory variable – substantial government ownership, the results show negative significant signs for its coefficients for the cash long-run ETR and the proportion of cash tax paid to operating cash flow. But negative insignificant signs for its coefficients for accounting ETR and the ratio of total tax expense to operating cash flow. Given these inconsistencies in the significance of the relationships with the four measures of corporate tax avoidance, relationship between government ownership and the four corporate tax avoidance remains inconclusive. It means, therefore, that the study's hypothesis is not fully supported.

For the control variables, only firm size is found to have a significant positive relationship with the same two measures of corporate tax avoidance. The finding is consistent with Adhikari et al., (2005); (2006); but contrary to the finding of Noor et al., (2008). Also, reported in the table are tests of exogeneity that is assumed in this study. The study assumes firms' current tax avoidance is independent of their past avoidances. This assumption needs to be checked for consistency in the model. The sargan test of over-identification due to instrumental variables shows no rejection for the validity of the over-identification restriction. Also, the serial correlation tests for second-order autocorrelation [AR(2)] fail to reject the null of no serial correlation. The low p-values of the first-order autocorrelation [AR(1)] are expected due to likely serial correlation imposed in the first-order difference while eliminating the firm specific effects. Therefore, the specification tests for each of the estimated models show that the estimations are unbiased and consistent.

Table-4. System GMM results for the four measures of tax avoidance

Dependent variables	CTA1	CTA2	CTA3	CTA4
Constant	-0.9739 (0.013)	-0.6029 (0.033)	-0.1105 (0.004)	-0.6987 (0.038)
<i>CTA_{t-1}</i>	0.2291 (0.023)	0.0952 (0.036)	0.1531 (0.051)	0.2203 (0.044)
govt	-0.0259(0.122)	-0.0887 (0.019)	-0.0299 (0.125)	-0.0527 (0.022)
Fsize	-0.0321 (0.258)	-0.0437 (0.050)	-0.0027 (0.197)	-0.0375 (0.026)
Profit	-0.3093 (0.277)	-1.1379 (0.207)	0.4006 (0.176)	0.0347 (0.935)
Lev	0.0150 (0.914)	-0.1033 (0.576)	-0.2828 (0.736)	-0.1038 (0.691)
Capint	-0.0469 (0.622)	-0.0519(0.529)	0.0300(0.786)	0.0296 (0.779)
Sargan test: p-value	0.314	0.548	0.325	0.563
AR(1): p-value	0.038	0.042	0.043	0.026
AR(2): p-value	0.286	0.358	0.345	0.421

Numbers in parentheses are the p-values

5. Qualitative Enquiry

Given the inconclusive nature of the findings above, interview protocols were further conducted with tax auditors at Corporate Tax Department of the Inland Revenue Board of Malaysia in Jalan Dut. Tax auditors are selected, as the respondents for the interview protocols, to provide third party evidences given the sensitive nature of the phenomenon being investigated. Secondly, tax auditors involve directly in companies tax non-compliance examination and the findings of the present study may have effects on their jobs; given its practical implications. Their vast experiences in their auditing of the large companies provided the needed explanations to the findings from the quantitative analysis. These respondents were selected using a purposive-judgmental sampling method to contact the subjects who are most advantageously in best position to provide the needed information.

Each interview session was tape recorded and took an average of one hour in the first visit with follow-up for further clarifications from some of the respondents. The period for the conduction of interview sessions spanned over one and half months. This included the first visit to all the respondents and the subsequent follow-up visits for clarification and checking of the transcribed interviews' responses.

The responses from the interviews were analysed using procedure suggested in Ary, Jacob, Razavieh and Sorensen (2006) as there is no universally accepted method for qualitative data analysis (cooper & Schindler, 2008). This procedure consists of the three major steps of: (1) familiarization and organization of the data (through verbatim transcription of the interviews, multiple times of reading and re-reading through the transcribed interview responses, and taking notes of relevant information reflecting general thoughts); (2) coding and recording of relevant responses (by a preliminary coding, developing tentative categories, and sorting into major and minor categories); and (3) interpreting the data (through generating emerging themes using constant comparative method). The coding, recoding, classification and grouping of main ideas were done with help of a computer-aided qualitative data analysis (CAQDA) known as Nvivo. Specifically Nvivo 10 was used in this respect. The generated main ideas were then used to provide further explanations to the findings from the quantitative data analysis consistent with the research design above. Here, a thematic analysis was not carried out given the purpose of the interviews. Therefore the results of the analysis were presented following the interview questions. This was done to provide a better comparison and interpretation of the findings from both the quantitative and qualitative data analyses.

5.1. Qualitative Data Analysis

There are different opinions among the respondents whether government linked companies are less tax avoidant or not. While some of the respondents agree that government linked companies are more tax compliant, some argue to the contrary and some decline to comment saying they have no experience auditing these companies.

One of the respondents from the first group who argue for high tax compliance level among the GLCs has this to say:

...I had some experience in the GLC. They are very good compliant to tax law. Normally, these companies are audited by many parties such as AG – auditor general – so they cannot take for granted the tax issues. Also they do have very good tax consultants that advise them from time to time. I think they are more organised... tax auditor 6 (DU. 14)

From this response, government linked companies are believed to be less tax avoidant given their high level of tax compliance. However, other respondents view the argument to be baseless given their own experience with these companies. One of respondents from this group says:

...I think there is no difference. In fact, it doesn't mean that they are GLCs that they will be more tax compliant. This is not necessary; we tend to see a lot of issues there also. So they are similar to other companies... tax auditor 2 (DU. 14)

Another respondent from this group also says:

...I find them (GLCs) difficult to audit because of documentation. They are slow in giving documentation and there are other issues that are more of technical issues... tax auditor 1 (DU. 14 & 16)

Another respondent agrees on the presence of technical issues in the government linked companies while saying:

...I don't think that GLCs are less tax avoidant as there are certain technical issues not very clear in the case of GLCs... tax auditor 3 (DU. 18)

Yet another respondent opines that:

...I don't think so, but if you say they are in the public eye and they need to comply more I may not agree... tax auditor 4 (DU. 14)

These responses show that government linked companies are too complex to understand their tax behaviour exactly. A further investigation shows that these companies were being audited by a special unit in the tax audit department previously but of recent the unit has ceased to exist. This might be one of the reasons for the diverse views noticed among the respondents. This lack of consensus among the respondents on whether government linked companies are tax avoidant or not debars further investigation on what manners these companies might be using for their avoidance practices.

5.2. Summary of Qualitative Findings

The findings from this analysis shows an inconclusive conclusion on whether government linked companies are less tax avoidant or not. While some the respondents believe that these companies are not different from other companies in relation to tax avoidance practices based on their experience, few of the tax auditors perceive these companies to be tax compliant. Thus, the fact that government linked companies are in the public eye might not make them less tax avoidant in the actual sense.

6. Conclusion

The study investigates the tax impacts of government ownership by examining the relationship between substantial government ownership and four similar measures of corporate tax avoidance among Malaysian large companies. Using a follow-up explanatory mixed methods approach, the results show inconclusive findings from both the quantitative and qualitative data analyses. While it is believed that the benefits of tax avoidance for GLCs are more than its associated costs, the empirical provide insufficient proof of such notion. It was however, documented that GLCs are slow in documentation for tax related-matters. It could be concluded that GLCs in Malaysia are somehow too complex to understand their tax planning strategies. Based on this conclusion, the transformation programme of GLCs to take into cognizance the strategies for their transparency in tax related-matters. This will help to a large extent in restoring the fading public image of these companies and in rebuilding the public confidence in them.

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