# Foreign investors' interests and corporate tax avoidance: Evidence from an emerging economy

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## ARTICLE INFO

## ABSTRACT

Foreign investment inflows into developing countries has become a cause for concern, as the opportunity for profit shifting across their various operating outlets has made multinational companies tax avoidant in host countries. Thus, this study examines the tax impact of foreign investors' interests within a host developing economy. The sample data were extracted from annual reports of the FTSE Bursa Malaysia Top 100 firms for the financial periods of 2009, 2010 and 2011. Using four similar measures of tax avoidance and three related measures of foreign investors' interest, our analysis of the dynamic panel data with a system GMM estimator shows significant positive relationships between foreign investors' interests and the measures of corporate tax avoidance among large Malaysian companies. This result suggests the possibility of multinational companies exploiting their international scales of operations to avoid taxes in both host and parent countries. Thus, emerging economies need to consider the residual benefits of foreign direct investment in the presence of such tax avoidance in their pursuit of economic development.

## 1. Introduction

Foreign ownership – through direct investments, joint ventures, mergers and acquisitions, or equity ownership (Dahiya and Gupta, 2004) – represents the interests of foreign investors (Ohori, 2011). These foreign owned/linked firms are desirable for most developing economies looking for rapid economic growth and development because of their superior performance (Mohd Ghazali, 2010), higher productivity (Khawar, 2003), higher level of voluntary disclosure (Haniffa and Cooke, 2002), robust stock values (Huang and Shiu, 2009) and efficiency within the host countries. On the part of the firms, reasons such as access to new markets, opportunities to exploit resources, lower cost of labour, technological progress, policy liberalization, and most importantly, tax incentives, have served as motivating factors for them to go abroad.

Given these reasons, emerging markets have become battlefields wherein multinational companies compete among themselves (Luo, 2002). In Asia, for instance, the amount of foreign direct investment (FDI) inflows into South, East and Southeast Asia increased from US$24.5 billion in 2009 to US$299.7 billion in 2010 (UNCTAD, 2011, p. 45). In Southeast Asia alone, a 26% increase in the amount of FDI to US$117 billion was recorded in the same year. Similarly, the Malaysian economy witnessed an increase of 30% from US$9.1 billion in 2010 to US$11.9 billion in 2011 (MIDA, 2012, p. 15). While these might be admirable inputs for the growth of developing economies in Asia, it has been argued that multinational firms have structured their business in a way to avoid taxes in every jurisdiction where they operate (Christensen and Murphy, 2004). Furthermore, empirical studies have also shown that multinational US firms pay low taxes in the host countries despite their high

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levels of profitability (Grubert and Mutti, 1991; Hines and Rice, 1994; Kinney and Lawrence, 2000). This may be due to opportunities for international shifting of corporate income (Shackelford and Shevlin, 2001) and possible tax incentives granted by host countries.

Theoretically, this is surprising, as these firms are expected to seek organizational legitimacy given the express social contract between them and the society where they operate. Any act of tax avoidance would be tantamount to breaching the social contract and constitutes "a crime against the nation" (Landolf, 2006, p. 6). Thus, for an organization to be legitimate, it needs to fulfil its social responsibility to the host community economically by paying taxes (Preuss, 2010; Williams, 2007a). Because multinational companies are generally believed to operate within international best practices, they are perceived as socially responsible firms. It would be worthwhile therefore to investigate whether these firms consider the issue of organizational legitimacy. If they are actually tax avoidant, as claimed by Christensen and Murphy (2004), the benefits from their tax management strategies outweigh the costs and less emphasis is given to organizational legitimacy.

However, the tax status of these firms in developing host economies remains unclear despite increasing cross-border investments. Although some studies have examined the tax impacts of foreign investments in the US and UK, similar studies in developing host countries are virtually non-existent. Thus, this study examines the relationship between foreign investors' interests and corporate tax avoidance[1] among listed Malaysian companies. Three related measures are used to capture foreign investors' interests comprehensively: the proportion of shares owned by foreign investors to the firms' total shareholding, substantial foreign shareholding, and the proportion of foreign directors on the board. Corporate tax avoidance, on the other hand, is measured using four similar measures: accounting effective tax rate (ETR), long-term cash effective tax rate (ETR), the ratio of income tax expenses to operating cash flow, and the ratio of tax paid to operating cash flow.

Malaysia is chosen as the context of this study because of the emerging nature of its economy and its potential for foreign direct investments (FDIs), as stated in the vision 2020 (MIDA, 2012). In fact, recent efforts made by the country's present administration to attract foreign investments have been highly commended.[2] It is therefore imperative to conduct this type of study to properly evaluate the country's policies on FDIs, at least on tax related matters. This is especially important given recent findings concerning the outflows of illicit funds from the country through commercial tax non-compliance.[3]

The remaining part of this paper is organized as follows. Section 2 covers a review of the related literature and states the tested hypothesis. Section 3 provides details on the empirical method, which includes the sample source of data, model specification, variable measurements and model estimation method. Section 4 delineates the results of the parameters' estimations, and Section 5 sets out the conclusion to the paper.

## 2. Literature review and hypothesis development

Empirical studies on foreign investors' interests within developing host countries have focused on several issues in the corporate setting, such as performance (Mohd Ghazali, 2010), disclosure (Che Haat et al., 2008; Haniffa and Cooke, 2002, 2005), dividend policy (Jeon et al., 2011), corporate governance (Nga et al., 2012, February), technology transfer (Rasiah, 2003; Wignaraja, 2008), and stock values (Huang and Shiu, 2009; Sulong and Nor, 2008). However, studies on the tax impacts of foreign investors' interests within developing host countries are virtually non-existent. Studies in this respect have only been conducted in developed economies and are limited. The following review covers the available studies.

Using information provided by the Amadeus database, Huizinga and Nicodeme (2006) investigate the link between foreign ownership of shares and corporate income tax rates among several European countries. The study finds that countries with a higher level of foreign ownership do have higher tax rates. Hence, a complementary relationship is documented between foreign ownership and corporate income tax rates.

Similarly, Egger et al. (2010) find higher rates of tax avoidance to be related to high-tax host countries while examining the impacts of foreign plant ownership on corporate tax avoidance among 31 European countries. The use of international profit-shifting strategies is documented as one of the means through which such avoidance has been perpetrated. An earlier US study by Kinney and Lawrence (2000) also finds firms with substantial foreign ownership to be tax avoidant. The study investigates the influence of foreign ownership of shares on the tax burden of some US firms and documents profit shifting as the means for the lower tax burden after controlling for earnings management.

Demirguc-Kunt and Huizinza (2001) examine the relationship between foreign ownership and tax avoidance among several banks in 80 countries around the world. Covering an eight-year period, the global analysis shows that foreign linked banks pay fewer taxes compared to domestic banks within the host countries. It is also found that these banks use profit-shifting strategies to avoid tax payments. Although this study unveils the impact of foreign ownership on corporate

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[1] The term corporate tax avoidance is defined as the reduction of explicit corporate tax liabilities (adapted from Dyreng et al., 2008; Hanlon and Heitzman, 2010). The term is used throughout this study, although it could be used interchangeably with tax management, tax planning or tax aggressiveness.

[2] The commendation was given in the 2012 Investment Climate Statement on Malaysia by the US Department of State, Bureau of Economic and Business Affairs report June 2012, available at http://www.state.gov/e/eb/rls/othr/ics/2012/191191.htm (accessed on 25 August 2013).

[3] This was unveiled in a report by Global Financial Integrity (GFI) in January 2011. The report ranks Malaysia fifth among the developing countries with the highest illicit outflow of funds. While the reasons for such flows out of the country were not stated in the report, GFI argues that 60 to 65 per cent of the global illegal fund flows could be due to commercial tax non-compliance.

tax avoidance, from the developed and developing host economies it only focuses on the banking sector. Surprisingly, corporate tax avoidance is found to be positively related to foreign ownership in the banking industry despite the strict nature of its regulatory provisions. Thus, the situation in the other sectors of the host developing economies requires similar investigation.

In addition to Demirguc-Kunt and Huizinza (2001), studies examining the relationship between foreign investors' interests and corporate tax avoidance within developing host countries are almost non-existent. Meanwhile, having an insight into this relationship would be worthwhile given the rate of inflow of foreign direct investments (FDI) to developing economies. In addition, the study of Demirguc-Kunt and Huizinza (2001) is dated, and the measures employed for tax avoidance could only capture non-conforming tax avoidance. Thus, the objective of the present study is to examine the relationship between foreign investors' interests and corporate tax avoidance among large listed Malaysian companies.

### 2.1. Theoretical perspective

Tax payment is one of the important means by which a firm fulfils its civic responsibility to the society where it operates (Preuss, 2010; Williams, 2007a). This follows from the express social contract between the firm and the society at large. Given this, tax researchers have recently argued for the consideration of tax related matters in corporate social responsibility strategies (Avi-Yonah, 2008; Desai and Dharmapala, 2006; Freedman, 2003). In fact, Christensen and Murphy (2004) argue that any act of tax avoidance amounts to social irresponsibility.

Sequent to this, Huseynov and Klamm (2012) and Lanis and Richardson (2011, 2012) propose consideration of the tax authority as a company stakeholder. We argue that tax authorities do act on behalf of the government, which also represents the general public. Furthermore, taxes collected by tax authorities are meant for the welfare of citizens as a whole and not for the sole benefit of tax authorities. As such, Landolf (2006) describes tax avoidance "as a crime against the nation" (p. 6) rather than solely against tax authorities.

Thus, the legitimacy theory seems more relevant in corporate tax compliance/non-compliance issues than the stakeholder theory. While both theories seem interrelated given that they both help in understanding the relationship among entities and the societies where they operate, the focus of the legitimacy theory is wider than that of the stakeholder theory. With the legitimacy theory, the target is society as a whole and not stakeholders alone, as is common with the stakeholder theory (An et al., 2011).

Owing to the concern regarding the issue of organizational legitimacy, companies are expected to be socially responsible to legitimate their existence and maintain their survival within society. Thus, they are required to pay taxes as an economic contribution towards the well-being of members of the society where they operate (Williams, 2007b). Therefore, companies that are deemed to be socially responsible are expected to comply with the tax law, pay fair amounts of taxes and forgo the benefits associated with tax avoidance.

Consistent with this expectation, Lanis and Richardson (2012) find that Australian companies with a high level of corporate social responsibility (CSR) disclosure are less tax aggressive. A similar finding is documented by Huseynov and Klamm (2012) while examining the relationship between tax avoidance and tax management fees and the interaction of community concern as a measure of CSR. Contrary to both findings, however, Preuss (2010) finds that American companies with a high level of CSR disclosure are tax avoidant by situating their outlets in offshore finance centres (OFCs)/tax havens. This shows that despite claiming to be socially responsible, companies are involved in tax avoidance.

The contradictory findings documented in these studies call for further empirical investigation concerning the relevance of the legitimacy theory in the context of tax avoidance, especially in emerging non-Western economies. Thus, this study aims to further substantiate or repudiate the theoretical propositions.

### 2.2. Hypothesis development

Although the findings in Preuss (2010) contradict the theoretical propositions explained above, they are consistent with the empirical findings from the reported studies concerning the relationship between tax avoidance and foreign ownership. These studies document a consistent positive relationship between tax avoidance measures and measures of foreign ownership. They argue that firms use profit-shifting strategies to reduce their tax liabilities. Given this, the present study hypothesizes that:

H$_1$. *Foreign investors' interests are positively related to corporate tax avoidance among listed Malaysian companies*

## 3. Empirical method

This section states the empirical research methods used in this study. Issues such as sample selection together with its justification, specification of the research model, measurement of the dependent and independent variables and the estimation method are also detailed here.

### 3.1. Source of sample data

The data used in this study were collected from companies listed on the FTSE Bursa Malaysia Top 100 Index.[4] The FTSE Bursa Malaysia Top 100 Index is an indication of "the performance of the top-capitalized companies, which pass the size, free float and liquidity screens" (FTSE, 2013, p. 15). This suggests that these companies are large with respect to market capitalization and performance.

For tax planning to be effective, considerable resources may be required. It is thus believed that only large companies could offer large sums for tax avoidance activities given the opportunity costs of such resources (Dyreng et al., 2008; Huseynov and Klamm, 2012). In line with this argument, Adhikari et al. (2005) document the use of earnings management by large Malaysian firms to manage their tax liabilities downward in anticipation of changes in tax policy. Similarly, Kasipillai and Mahenthiran (2013) find use of some components of deferred tax liabilities for avoiding earnings declines among listed Malaysian firms. For these reasons, this study samples these top 100 companies. This sampling is in line with similar studies, such as Minnick and Noga (2010), Vafeas (2010) and Huseynov and Klamm (2012), which also focus on large companies in the S&P 500 Index.

The sampled companies' annual reports were downloaded from the website of Bursa Malaysia (http://www.bursamalaysia .com/market/listed-companies/company-announcements) for three financial years (2009–2011). The rate of corporate income tax was reduced to 25% in 2009 from 26% in 2008 and remained the same throughout the study period. This stability in the corporate income tax actually assists in better interpretation of our findings. The information related to the variables in the study was hand-collected from the annual reports of the sample companies, which helps to ensure the accuracy and completeness of the data for the study.

The data were later filtered and the following adjustments were made. Fifteen of the companies were excluded because of incomplete information for the three-year financial period under consideration. Five companies with tax refunds or operating loss were also excluded because of potential distortion in measuring their tax burdens (Zimmerman, 1983). Sixteen of the companies were further removed for reporting negative operating cash flows in their financial statements for all three financial years. Finally, one company whose ETRs were greater than one was also excluded to avert likely problems in the model estimation (Stickney and McGee, 1982). The remaining 63 companies for the three-year financial period constituted the final sample. The final sample gave a total of 189 firm-year observations given the balanced nature of the panel data.

### 3.2. Specification of the empirical model and measurement of variables

The dynamic nature of corporate tax avoidance practices requires the development of a dynamic panel dataset. Thus, this study specifies the following model to investigate the relationship between the measures of corporate tax avoidance and foreign investors' interests. A similar model is found in Minnick and Noga (2010) who studied the relationship between tax management and the attributes of boards of directors. The model also includes some control variables that were found to affect a firm's tax burden.

$$CTA_{it} = \alpha_i + \Upsilon CTA_{it-1} + \beta_1 foreign1_{it} + \beta_2 foreign2_{it} + \beta_3 foreign3_{it}$$
$$+ \beta_4 polcon_{it} + \beta_5 fsize_{it} + \beta_6 profit_{it} + \beta_7 lev_{it} + \beta_8 cap\,int_{it} + \varepsilon_{it} \tag{1}$$

The subscripts $i$ and $t$ represent companies and year, respectively. CTA, i.e., the dependent variable, stands for corporate tax avoidance. Corporate tax avoidance in this study is captured using four similar measures. The first measure is accounting ETR (coded as CTA1), which is calculated as "the ratio of total tax expense to the total income before tax" (Armstrong et al., 2012; Chen et al., 2010; Dyreng et al., 2010; Huseynov and Klamm, 2012). The second measure is the long-term Cash ETR (denoted as CTA2) and is computed as the ratio of tax paid over the three-year[5] financial period to the total income before tax over the respective period (Armstrong et al., 2012; Chen et al., 2010; Dyreng et al., 2010; Hope et al., 2012; Huseynov and Klamm, 2012; Kim et al., 2011; Minnick and Noga, 2010). The third is the ratio of total tax expense to operating cash flow (tagged as CTA3) (Lanis and Richardson, 2012; Zimmerman, 1983). The fourth measure is the ratio of tax paid to operating cash flow (denoted as CTA4) (Hanlon and Heitzman, 2010). The first three measures are commonly used by tax researchers to capture tax avoidance; however, Hanlon and Heitzman (2010) have argued that these measures could only capture non-conforming tax avoidance. Given this, Hanlon and Heitzman (2010) suggest the fourth measure above. Following their argument, Salihu et al. (2013b) examine whether the suggested measure is statistically and significantly different from the other measures. The results of the multiple comparisons of the four measures above show that the suggested measure is different from the others. The four measures are jointly used in this study for the holistic capture of corporate tax avoidance, i.e., the conforming[6] and non-conforming aspects.

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

[5] A three-year period is the minimum suggested period for the computation of long-term cash ETR according to Hanlon and Heitzman (2010, p. 140).

[6] The capturing of conforming tax avoidance is important in the Malaysian context given the concentrated nature of its corporate ownership and the emerging state of its market. This causes companies to place less importance on earnings reporting, and, therefore, manipulate their book and tax income

It should be noted that the chosen measures of corporate tax avoidance are those constructs that measure tax avoidance based on the proportions of income tax to the total income of a business. These measures do not require the use of taxable income, which has been seriously criticized for its inappropriateness (Hanlon, 2003). The criticism is premised on the act of grossing up the income tax expense in the income statement using the corporate tax rate to obtain the taxable income, which is used in estimating the book-tax gap (BTG) measures of tax avoidance. Apart from the BTG, other previously used measures[7] of tax avoidance are mostly country specific, i.e., based on a country's financial reporting standards, which may not be relevant in other countries.

The symbol $\alpha_i$ represents the constant term, $\Upsilon$, $\beta_1$ to $\beta_8$ are slopes to be estimated and $\varepsilon$ is the disturbance error term of the model. Foreign investors' interests, the explanatory variables, are coded as *foreign1*, *foreign2* and *foreign3*. The first explanatory variable, *foreign1*, is measured as the proportion of shares owned by foreign investors to the firms' total shareholding. A similar measure has also been used in other Malaysian studies to capture foreign ownership interest, such as Haniffa and Cooke (2002, 2005) and Mohd Ghazali (2010). The second measure, *foreign2*, is a dichotomous explanatory variable in which 1 is assigned to a firm with up to 5% foreign ownership and 0 to firms with less than 5%. The 5% foreign ownership is considered substantial given the definition of substantial shareholding by the Securities Commission.[8] The third measure of foreign investors' interests, i.e., *foreign3*, is the proportion of foreign directors on the board. The interests of the firm's headquarters are represented by the foreign directors who have potential influence on the other directors in decision-making. This influence is intended to be captured by this measure.

Some variables that are found to influence firms' tax burden in the prior literature are also considered as control variables in the above model. These are political connection (*polcon*), firm size (*fsize*), profitability (*profit*), leverage (*lev*), and capital intensity (*capint*). Political connection is meant to account for the political interference in business activities. Such interference could result in a lower tax burden for the favoured companies, which is contradictory to the concept of tax equity. Therefore, controlling for political interference becomes necessary given the multi-faceted relationship between business and politics commonly found in many East Asian countries. In Malaysia, for instance, certain companies are tagged as politically connected firms given the government patronage of such companies (Adhikari et al., 2006; Johnson and Mitton, 2003; Perkins and Woo, 2000). This is not surprising as governmental intervention and participation in business are key ingredients in any developing economy under relationship-based capitalism (Gomez, 2002; Gomez and Jomo, 1997). It has therefore been established that such firms actually witness lower tax burdens (Adhikari et al., 2006). Thus, the study controls for political connections to ensure equity in the tax burden among the firms. We use the proportion of government ownership in firms as a proxy for government support. The proxy is adopted from Adhikari et al. (2006). We measure government ownership as the number of shares owned by government institutions and government-controlled bodies (Mohd Ghazali and Weetman, 2006). Following Mahenthiran and Kasipillai (2012), we include shares owned directly by the government through Khazanah National and indirectly through institutions such as the Employees Provident Fund, Armed Forces Fund Board, Permodalan National Berhad, Pilgrimage Fund Board, and the Social Security Organization of Malaysia.

Firm size, another control variable, is meant to capture and mitigate the effects of the variation in the investment levels of the firms in assets with tax incentives. We control for this because of the likely "timing difference in the recognition of expenses" (Chen et al., 2010, p. 40). Firm size is measured as the natural log of total assets (Haniffa and Cooke, 2002; Mohd Ghazali, 2010). Profitability is also controlled for given the documented high effective tax rates in profitable companies and is measured as the return on assets (Derashid and Zhang, 2003; Noor et al., 2008). Leverage, on the other hand, reduces the effective tax rates of highly geared companies because loan interest is tax deductible. Leverage is measured as the ratio of total long-term debt to total assets (Chen et al., 2010). Similarly, capital intensity has a reduction effect on firms' effective tax rates because of the accelerated method of depreciation that is usually proportional to the lifespan of the assets. This is measured as the ratio of plant, property and equipment to the total assets (Chen et al., 2010; Derashid and Zhang, 2003).

It should be noted that the lagged dependent variable $\Upsilon CTA_{it-1}$ is included to capture dynamism[9] in corporate tax planning and address likely endogeneity of the explanatory variables. Roberts and Whited (2012) identified three sources of endogeneity in corporate finance-related studies as omitted variables, simultaneity and measurement errors. Consequent to this, Wintoki et al. (2010) argued that while these sources of endogeneity affect most internal corporate governance research, very few researchers control for it. However, Minnick and Noga (2010) considered endogeneity in their study of corporate tax management among US firms. As such, this present study accounts for potential endogeneity using the above model (Eq. 1).

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together. This was evident in the findings of Adhikari et al. (2005) and Kasipillai and Mahenthiran (2013), who found that Malaysian firms use earnings management to reduce their tax liabilities and avoid declines in earning reporting.

[7] For more discussion on the measures of corporate tax avoidance and inappropriateness of BTGs, refer to Hanlon and Heitzman (2010) and Salihu et al., (2013b).

[8] The Securities Commission defines substantial shareholding as when a person holds not less than five per cent 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 30 July 2013). The same definition is given in Section 69D of the Companies Act of 1965 (as amended).

[9] Corporate tax planning is dynamic in that it involves strategies that transcend a one-year plan because tax payment is a continuous process. It is even more obvious under the current assessment system that requires taxpayers to estimate their tax liabilities at the beginning of the year of assessment, which should not be less than 85% of the prior year's estimated or revised tax liabilities (Kasipillai, 2010). This makes any tax management strategy continuous from year to year.

**Table 1**
Descriptive statistics.

|  | N | Mean | Std. deviation | Minimum | Maximum |
|---|---|---|---|---|---|
| **Dependent variables** | | | | | |
| Accounting ETR (*CTA1*) | 189 | .2268 | .06717 | .01 | .41 |
| Long-run cash ETR (*CTA2*) | 189 | .2205 | .10072 | .00 | .56 |
| Tax expense to operating cash flow (*CTA3*) | 189 | .1978 | .07818 | .01 | .56 |
| Tax paid to operating cash flow (*CTA4*) | 189 | .1823 | .09315 | .00 | .61 |
| **Explanatory variables** | | | | | |
| foreign1 | 189 | .1442 | .1749 | 0 | .7187 |
| foreign2[a] | 189 | | | 0 | 1 |
| foreign3 | 189 | .0701 | .1420 | 0 | .6 |
| **Control variables** | | | | | |
| Polcon | 189 | .1442 | .1749 | 0 | .787 |
| 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 |

[a] Foreign2 is a dichotomous variable. Thus, the mean and standard deviation are not reported.

A positive coefficient is expected for the lagged dependent variable $\Upsilon$. For the hypothesis to be supported the coefficients of $\beta_1$ to $\beta_3$ should be negative. This means that an increase in foreign investors' interests reduces the effective tax rates, and, hence, results in greater tax avoidance. The coefficients of $\beta_4$ to $\beta_8$ are also expected to be negative given the findings in the previous studies (Adhikari et al., 2005, 2006; Chen et al., 2010; Derashid and Zhang, 2003).

### 3.3. Estimation method

The dynamic nature of the panel data negates the relevance of the standard pooled regression model, or fixed or random-effect models as the estimation method given the presence of the lagged dependant variable (Ibrahim and Law, 2014). The models will produce biased estimates because of likely serial correlation of the error term. Even if we assumed that the error term is not serially correlated, the bias will still be present and make the estimates inconsistent due to potential correlation of the lagged dependent variable with the error term (Nickell, 1981).

Arellano and Bond (1991) argued for the use of the generalized method of moment (GMM) estimator in the above situation. With GMM, the specific firm effects or any time-invariant variable would be eliminated and the likely autocorrelation of the error term created by the first-order difference would also disappear when the second-order difference is taken. Blundell and Bond (1998) specifically suggested the use of the system GMM instead of the difference GMM when dealing with panel data for a short period. Thus, this study employs the system GMM estimator given the three-year time period. The same system GMM estimator was used in Minnick and Noga (2010) and Wintoki et al. (2010).

## 4. Results

Table 1 below presents the descriptive statistics of the dependent and explanatory variables in this study. The definitions of the variables are also presented in Table 2 below for easy cross-reference. Among the dependent variables, accounting ETR (i.e., *CTA1*) is observed to have the highest mean of 22.68%. This shows that large companies in Malaysia have a 0.2268 portion of their total income as the estimated tax liability. The rate is similar to that of Noor et al. (2008) who find 22.49% for the accounting ETR. The mean for the long-term cash ETR is 22.05% and its value is next to that of the accounting ETR. With this, a 0.2205 portion of the total income is the actual cash paid to IRBM as taxes. The ratio of income tax expense to firms' operating cash flow has a mean of 19.78%. In other words, a 0.1978 portion of the operating cash flow is estimated 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 rate 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 is made by Noor et al. (2008) based on their observation of low tax burdens among listed Malaysian 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. (2013b) 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.

Table 1 also reports a mean of 0.1442 as the proportion of the firms' shares held by foreign investors. While some companies have a high proportion of foreign ownership, given the maximum value of 0.7187, on average 14.42% of the total shareholdings of the large companies are actually held by these investors. Of this proportion, 10% of the sampled firms have

**Table 2**
Definitions and measurements of the variables.

| Variables | Definitions |
|---|---|
| **Dependent variables** | |
| Accounting ETR (*CTA1*) | Accounting effective tax rate is measured as the ratio of total tax expense to the total income before tax. |
| Long-term cash ETR (*CTA2*) | Long-run cash effective tax rate is computed as the ratio of cash tax paid over the three-year financial period to the total income before tax over the respective period. |
| Tax expense to operating cash flow (*CTA3*) | The ratio of total tax expense to operating cash flow in the respective financial period. |
| Tax paid to operating cash flow (*CTA4*) | The ratio of tax paid to operating cash flow in the respective financial period. |
| **Explanatory variables** | |
| foreign1 | First measure of foreign investors' interests, i.e., the proportion of shares owned by foreign investors to the firms' total shareholding. |
| foreign2 | Second measure of foreign investors' interests. A dichotomous variable in which 1 is assigned to a firm with up to 5% foreign ownership and 0 to firms with less than 5%. |
| foreign3 | Third measure of foreign investors' interests measured as the proportion of foreign directors on the board. |
| **Control variables** | |
| Polcon | Political connection represented by government ownership, which is measured as the number of shares owned by government institutions and government-controlled bodies to the firm's total shareholding. |
| Fsize | Firm size, which is measured as the natural log of total assets. |
| Profit | Profitability, which is measured as the return on assets. |
| Lev | Leverage is measured as the ratio of total long-term debt to total assets. |
| Capint | Capital intensity, which measured as the ratio of plant, property and equipment to total assets. |

foreign investors as substantial shareholders. This is represented by the second explanatory variable, i.e., *foreign 2*. Given the dichotomous nature of the variable, only the minimum and maximum values are reported in the table. These suggest the presence of foreign investors' interests in large Malaysian companies. As for the proportion of foreign directors sitting on the boards of these large companies, while a high value of 60% is found in some of the companies, an average of 7.01% is documented among the firms. This suggests the likely influence in decision-making by the foreign directors in favour of the firms' headquarters.

For the control variables, a mean of 0.1442 is reported for political connection, which is a proxy for government ownership. This means that, on average, the government owns 14.42% of the large firms' shareholdings. The maximum value for government ownership is 0.787. This shows that the government owns as much as 78.7% of shares in some firms. This further strengthens the need to control for government interference in the Malaysian business environment. A mean of 21.5749 is documented for firm size. This indicates that the sampled companies are large, and given a mean of 0.1271 for profitability, the companies are also profitable. On average, a profit of 12.71% is returned on the assets invested, which makes the companies tax liable. For the control variable, leverage, a value of 0.4432 is recorded as the mean. This suggests that 44.32% of firms' total assets are financed through long-term debt. 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 a maximum value of 0.8638. This further justifies the large nature of the sampled firms and shows the relevance of this variable in influencing the corporate tax burden given the tax incentives for such capital expenditure.

The correlation matrix among the explanatory and the control variables is presented in Table 3 below. These variables are expected to be correlated but within certain limits. Gujarati and Porter (2009) argue that the magnitude of the correlation coefficient should be less than 0.8 to avert the problem of multicollinearity. Review of the correlation coefficients presented in the table shows that all of the values are less than 0.5 with the exception of that of foreign 1 with foreign 2 and foreign 3. The high correlation coefficients among the three variables are expected because the variables are used to jointly measure foreign investors' interests. Further tests of multicollinearity using the variance inflation factor (VIF) and its inverse tolerance were also conducted. The results for the tests (not tabulated) 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 and Porter,

**Table 3**
Correlation matrix among the explanatory and the control variables.

| | foreign1 | foreign2 | foreign3 | polcon | Fsize | profit | Lev | Capint |
|---|---|---|---|---|---|---|---|---|
| foreign1 | 1 | | | | | | | |
| foreign2 | 0.6642 | 1 | | | | | | |
| foreign3 | 0.5116 | 0.2468 | 1 | | | | | |
| polcon | 0.0712 | 0.0897 | −0.0322 | 1 | | | | |
| Fsize | −0.0265 | −0.0388 | −0.0334 | −0.0508 | 1 | | | |
| profit | 0.0485 | −0.0430 | 0.2428 | −0.2555 | −0.0451 | 1 | | |
| Lev | 0.0000 | 0.0585 | −0.0106 | 0.1851 | −0.0681 | −0.0521 | 1 | |
| capint | 0.1370 | 0.1726 | 0.0066 | 0.0354 | 0.0260 | 0.1163 | −0.0790 | 1 |

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

| Dependent variables | CTA1 | CTA2 | CTA3 | CTA4 |
|---|---|---|---|---|
| Constant | −0.3882 (0.012)* | −0.3456 (0.045)* | −0.0453 (0.037)* | −0.0456 (0.013)* |
| $CTA_{t-1}$ | 0.2132 (0.024)* | 0.1346 (0.046)* | 0.0678 (0.032)* | 0.0456 (0.046)* |
| Foreign1 | −0.3429 (0.037)* | −0.3892 (0.053)** | −0.4567 (0.047)* | −0.4562 (0.034)* |
| Foreign2 | −0.2312 (0.031)* | −0.4326 (0.051)** | −0.5321 (0.039)* | −0.4687 (0.043)* |
| Foreign3 | −0.2467 (0.047)* | −0.2198 (0.046)* | −0.3896 (0.048)* | −0.3241 (0.062)** |
| Polcon | −0.0259 (0.038)* | −0.0887 (0.019)* | −0.0286 (0.023)* | −0.0527 (0.022)* |
| Fsize | −0.0242 (0.043)* | −0.0242 (0.049)* | −0.0421 (0.041)* | −0.0368 (0.048)* |
| Profit | −0.4521 (0.158) | −0.6624 (0.461) | 0.5682 (0.132) | 0.6784 (0.204) |
| Lev | 0.0421 (0.313) | −0.2632 (0.0327) | −0.0472 (0.753) | −0.0563 (0.893) |
| Capint | −0.0129 (0.351) | −0.0691 (0.364) | 0.0245 (0.632) | 0.0789 (0.573) |
| Sargan test: p-value | 0.362 | 0.891 | 0.489 | 0.683 |
| AR(1): p-value | 0.031* | 0.046* | 0.045* | 0.029* |
| AR(2): p-value | 0.352 | 0.312 | 0.479 | 0.643 |

Numbers in parentheses are the p-values.
** Significant at 10% level.
* Significant at 5% level.

2009; Hair et al., 2009). Finally, the positive correlations observed among foreign 1, 2 and 3 indicate their joint measurement of foreign investors' interests.

The results of the system GMM estimator of the model for each of the four measures of corporate tax avoidance are reported in Table 4. Four separate dynamic panel data models were run using each of the measures as the dependent variable. Procedurally, the ordinary least squares (OLS) estimator was run first. The results of the OLS estimator were subjected to the Lagrange multiplier test, which shows that the data cannot be pooled. Therefore, we ran both the fixed and random effects model estimators and used the Hausman specification to choose which one of the two tests to interpret. While the Hausman test favours the random effect estimator, the serial correction test showed the presence of serial correlation. This problem was addressed by using the system GMM estimator. The lagged variable (ϑ;), as expected, turns out to have a significant positive sign for its coefficient. The coefficients of the three explanatory variables turn out to be negative and significant at the 5% and 10% significance levels. These results suggest a positive relationship between foreign ownership and the four measures of corporate tax avoidance. The hypothesized relationship is therefore supported. This finding is in line with Demirguc-Kunt and Huizinza (2001) and Kinney and Lawrence (2000). However, it is contrary to the propositions in the legitimacy theory, and, therefore, in line with the findings of Preuss (2010). These firms therefore place less emphasis on the issue of organizational legitimacy and more emphasis on cost/benefits[10] consideration of tax avoidance. For the control variables, the political connection (meant to control for the political environment) is significant with negative coefficients for the four measures of tax avoidance. This shows that the political connection does influence corporate tax avoidance similar to what is documented in Adhikari et al. (2006). Firm size is also found to be significantly and negatively related to the four measures of corporate tax avoidance. The finding is consistent with Adhikari et al. (2005, 2006), but contrary to the findings of Noor et al. (2008). Furthermore, the tests of exogeneity that are assumed in this study are reported in the table. The study assumes that firms' current tax avoidance is independent of their past avoidance. 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. In addition, 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 firm specific effects. The specification tests for each of the estimated models therefore show that the estimations are unbiased and consistent.

## 5. Conclusion

The potential tax impact of foreign investors' interests within a developing host economy is investigated empirically in this study. Four similar measures for tax avoidance were employed with data from the top 100 Malaysian firms based on the FTSE Bursa Malaysia Top 100 Index over a period of three financial years (2009 to 2011). The interests of foreign investors were measured jointly by the proportion of shares held by foreign investors, substantial shareholding by foreign investors and the proportion of foreign directors on the boards of the companies. The results of the dynamic panel data using the system GMM estimator show significant positive relationships between foreign investors' interests and the four measures of tax avoidance among large Malaysian companies. The model specification tests, as recommended in Arellano and Bond (1991), Arellano and Bover (1995), and Roodman (2006), also show that the model is consistent and unbiased. The findings from this study are of significant importance in understanding the tax behaviour of multinational corporations. The possibility

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[10] For discussion of benefits and the associated costs of tax avoidance refer to Chen et al. (2010) and Salihu et al. (2013a).

of exploiting their international scale of operations to avoid taxes in both the host and parent countries is feasible from these findings. Regulatory authorities of both the host and parent countries would therefore find these results useful in their oversight role. For policymakers, an important insight from these findings is that while emerging economies generally welcome foreign direct investments, diligent caution should be exercised in evaluating such investments given the opportunity for international income shifting. Policymakers therefore need to consider whether the benefits to the host country outweigh the costs in the presence of tax avoidance. Notwithstanding these findings, the chosen measure of foreign investors' interests could limit the interpretation of this study. Future studies should consider the proportional equity ownership of foreign investors given the varying tax incentives granted for such investments in Malaysia.

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