The relationship of corporate tax avoidance, cost of debt and institutional ownership: evidence from Malaysia

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Abstract

The primary aims of this study are to identify whether there is any relationship between corporate tax avoidance and the cost of debt, and whether the level of institutional ownership moderates this relationship, with two hypotheses tests on sample of 110 listed firms in the main board of Bursa Malaysia during the year 2005 – 2009. This study supports prior papers with negative relationship between tax avoidance and the cost of debt, suggesting corporate tax avoidance activity can reduce the cost of debt of the firms. The significant and positive relation statistical result between corporate tax avoidance and the cost of debt indicates that tax – favored effect of corporate tax avoidance can serve as a debt for firms; hence tax avoidance serves as a substitute for the use of debt, which is consistent with trade – off theory. Additionally, the empirical evidence suggests that there is no significant effect of institutional ownership on this relationship, meaning that the level of institutional ownership does not impact on the relationship between tax avoidance and the cost of debt, regardless the level institutional ownership is high or low.

Resumen

Los objetivos de este estudio consisten, en primer lugar, en observar si existe alguna relación entre la elusión de impuestos por parte de las empresas y el coste de la deuda, y en segundo lugar, si el nivel de propiedad institucional influye en esta relación. Para ello empleamos dos tests de hipótesis realizados en una muestra de 110 empresas que cotizan en la Bolsa de Malasia durante el período 2005-2009. El presente estudio ratifica los resultados obtenidos en artículos anteriores en los que se observa una relación negativa entre la elusión fiscal y el coste de la deuda, e incluso sugiere que esta elusión de impuestos puede reducir el coste de la deuda de las compañías. El resultado estadístico positivo y significativo entre la elusión de impuestos y el coste de la deuda muestra que esta estrategia fiscal puede servir como deuda para las compañías, de ahí que la elusión pueda sustituir a la deuda, algo que es consistente con la teoría del Trade-Off. Asimismo, la evidencia empírica sugiere que la propiedad institucional no tiene un efecto realmente importante en esta relación, lo que significa que el nivel de propiedad institucional, ya sea alto o bajo, no afecta a la relación entre elusión fiscal y el coste de la deuda.

1. Introduction

Tax avoidance is the legal utilization of the tax regime to one's own advantage, to reduce the amount of tax that is payable by means that are within the law (Pasternak and Rico, 2008). Moreover, tax avoidance is not regarded by some as being unlawful practice which has the effect of reducing the government revenues needed for the provision of infrastructures, and for public services and public utilities (Otusanya, 2011). Most companies are involved in tax avoidance extensively with the purpose of reducing their income taxes since the income tax expenses will reduce their profits (Noor et al., 2010). Consequently, tax avoidance is becoming the main concern of governments (Gravile, 2009).

Tax avoidance is becoming main concern of world community. Tax Justice Network suggests that global tax revenue lost to tax avoidance exceeds US$255 billion per year, although those figures are not widely accepted. In October 2009 research commissioned from Deloitte`s report indicated "We estimate the total UK corporation tax potentially lost to avoidance activities to be up to £2 billion per annum, although it could be much lower." The report also dissected an earlier report by the TUC, which had concluded that tax avoidance by the 50 largest companies in the FTSE 100 was depriving the UK Treasury of approximately £11.8 billion. Indeed, the revenue losses from tax avoidance are difficult to estimate, but some have suggested that it can be roughly estimated by book-tax gap (Gravile, 2009; Lim, 2011).

Emphasizing the importance of corporate tax avoidance in the British tax system, David Gauke, British Conservative Party politician, the Member of Parliament for South West Hertfordshire and current Exchequer Secretary to the Treasury, stated in his speech on 16 June, 2010:

> *"One of the largest factors contributing to the tax gap is tax avoidance. Tax avoidance is estimated to contribute around 17.5% - around £7 billion – of the total tax gap.   … Nonetheless, £7 billion is a substantial sum, and this Government is determined to reduce it as far as possible".*

Since, tax avoidance is becoming the main concern of authorities (Gravile, 2009), comprehending the consequences of tax avoidance are the most important thing in the line of researches on corporate tax avoidance (Wang, 2010). One of the features of tax avoidance is the debt – substitution feature (Graham and Tucker, 2006; Lim, 2010). In other word, tax savings gained from tax avoidance activities can be used to finance firms' projects without borrowing fund. Therefore, it could reduce the average interest rate of company (Molina, 2005).

On the other hand, the level of institutional ownership can influence on the relationship between tax avoidance and the cost of debt, because institutional shareholders have greater incentives to monitor corporate performance due to virtue of their large stockholdings (Shleifer and Vishny, 1986). Additionally, agency problems between managers and shareholders may decrease with an increase in institutional investor ownership (Chung et al., 2002). Nevertheless larger institutional ownership proportions are associated with lower yields on new issue of bond (Bhojraj and Sengupta, 2003), institutional investors play a monitoring role in regard to the executive compensation contracts (Hartzell and Starks, 2003).

As corporate tax is the main and biggest contributor to the Government's revenue corporate tax avoidance is the main issue for governments. In Malaysia, total tax collections of RM90.65 billion contributed 56.11% of the total Federal Government income of RM161.56 billion for 2008, and corporate tax with RM46.90 billion collected, making up 51.74% of the total collections, whereas it was RM37.57 billion, making up 50.30% of the total tax revenues in 2007 (Table 1.1).

Table 1.1: Weight of Corporate taxes in overall direct tax collections

Year	Overall Direct Tax Collections (RM billion)	Corporate Tax (RM billion)	Percentage of Overall Direct Tax Collections
2005	56.85	28.06	49.35
2006	65.74	30.42	46.28
2007	74.69	37.57	50.30
2008	90.65	46.90	51.74
2009	88.40	40.27	45.55

Source: Annual reports of the Inland Revenue Board of Malaysia

As corporate tax is the main and biggest contributor to the Government's revenue corporate tax avoidance is the main issue for governments. Tax avoidance is becoming a serious concern of the Malaysian government. The IRBM`s the Civil Investigation Division carries out investigations to address deliberate as well as erroneous tax reports which are tent to avoid paying tax. In 2008, 648 tax avoidance cases under investigation were successfully resolved, whereas 755 cases in 2007. However, the amount of the avoided taxes recorded an increase of 9.38% from RM686.43 million in 2007 to RM750.83 million in 2008. In 2009, tax avoidance cases increased to 834. The amount of the avoided taxes recorded in 2009 reached 844.92.

Table 1.2: Tax avoidance investigation cases resolved by file type

Year	Companies	
	Number of Cases	**Amount (RM billion)**
2005	719	763.00
2006	1388	903.23
2007	755	686.43
2008	648	750.83
2009	834	844.92

Source: Annual reports of the Inland Revenue Board of Malaysia

Even though there have been issued a lot of anti-avoidance rules, companies are still employing this practice in their tax reporting. One of the main reasons of this is that tax shelters and tax avoidance are a substitute for the use of debt (Graham and Tucker, 2006; Lim, 2010; 2011). If tax avoidance is a substitute for the use of debt (Graham and Tucker, 2006; Lim, 2010), it could increase financial loose, reduce expected bankruptcy costs, enhance credit quality, lower default risk, and therefore reduce the cost of debt (Lim, 2011). In other words, tax savings firms gained from tax avoidance activities can be used to finance firms' projects without borrowing fund as mentioned earlier. Therefore, it could reduce the average interest rate of company (Molina, 2005).

From agency perspective, the level of institutional ownership can influence on the relationship between tax avoidance and the cost of debt. That is because, institutional shareholders have greater incentives to monitor corporate performance due to virtue of their large stockholdings (Shleifer and Vishny, 1986).

In this regard, in the literature on corporate tax avoidance, there is no study which explicitly examines the relationship between tax avoidance and cost of debt, which further applying the agency perspective to the relationship (Lim, 2011). As well as, until recently, there has been no study in context of Malaysia on attempting to explicitly examine the impact of tax avoidance on the cost of corporate debt. Thus, this paper examines the relationship of corporate tax avoidance and cost of debt, and the effect of the level of institutional ownership on that relationship by using Malaysian listed firms.

The research questions formulated for this study are based on the prior studies. The study attempts to find answers to two research questions. The first research question is whether corporate tax avoidance activity is associated with the cost of debt. Second one is whether the level of institutional ownership moderates the relationship between corporate tax avoidance and the cost of debt.

If, on the one hand, the level of institutional ownership leads to favourable outcome of tax avoidance (Desai and Dharmapala, 2009), and on the another hand, corporate tax avoidance is negatively associated with cost of debt, the level of institutional ownership can have a negative effect on the cost of debt by alleviating the

agency, costs as well as reducing opportunities for managerial rent diversion associated to corporate tax avoidance.

With reference to the above discussions, the study is conducted in the Malaysian firms listed in the main board of Bursa Malaysia. Malaysian economy is one of the high ranked economies in the world. For instance, Malaysian economy was ranked 21 out of 183 countries by World Bank in 2011. In addition, Malaysia's economic performance was acknowledged in the World Competitiveness Yearbook 2011 Report released by the Switzerland-based Institute for Management Development (IMD) on 18 May, 2011, where Malaysia's Economic Performance ranking improved to seventh place out of 59 economies this year. Just, Malaysia was ahead of Taiwan, Sweden, Canada, Australia, UK and Switzerland. Yet, taking corporate tax avoidance into account as an issue of affecting negatively on economy, there is no enough studies on the consequences of tax avoidance.

The population sample of this study includes 110 firms listed in the main board of Bursa Malaysia, comprising 10 main industry spheres of national economy. The sample period is from 2005 to 2009. The study uses both quantitative and empirical data tests.

This study is developed to provide relevant information on seven element variables and two hypotheses of the relationship among corporate tax avoidance, the cost of debt, and the level of institutional ownership with specific reference to the Malaysian listed companies. The overall outcome of this study will add to the existing and growing body of literature on corporate tax avoidance. This study is expected to contribute in several standpoints. For example, the results gained from the study serve as resource for researchers, policymakers, and investors who might use it in future researches, standard setting, or investment decision making.

2. Literature Review

2.1 Corporate Tax Avoidance

Tax avoidance is defined differently by scholars. For example, tax avoidance is defined as the reduction of explicit taxes per dollar of pre-tax accounting earnings by Hanlon and Heitzman (2009), Desai and Dharmapala (2009) define tax avoidance activity as a transfer of value from the state to shareholders. Others define it as representative a continuum of tax planning strategies, encompassing activities that are perfectly legal and more aggressive transactions that fall into the grey area (e.g., abusive tax shelters) (Wang, 2010). According to Pasternak and Rico (2008) it is defined as "Tax avoidance is the legal utilization of the tax regime to one's own advantage, to reduce the amount of tax that is payable by means that are within the law". However, there is no universally accepted definition of tax avoidance in the accounting literature.

Tax avoidance activities are traditionally regarded as tax saving devices that transfer resources from the government to shareholders, and thus should increase after-tax value of the firm (Desai and Dharmapala, 2009).

An emerging literature in financial economics, however, emphasizes agency cost implications of tax avoidance and suggests that tax avoidance may not always increase the wealth of outside shareholders (Wang, 2010). In accordance with this alternative view, tax avoidance activity may contribute to managerial rent extraction, which ranges from theft of corporate earnings and earning manipulation to excessive executive compensation, in various forms. Tax avoidance may potentially reduce the after-tax value of the firm, since the combined costs of company, which include costs directly related to tax planning activities, additional compliance costs, and non-tax costs e.g. agency costs may surpass the tax benefits for shareholders (Wang, 2010).

Many studies are conducted on question "why some firms avoid taxes more than others?" over last dozen of years. This is, indeed, critical and interesting question. The researchers concentrate on different things as proxies for incentives and resources for tax avoidance activity, to explain why some firms avoid more taxes than others. For example, some researchers (e.g. Zimmerman 1983, Gupta and Newberry 1997, and Rego, 2003) focus on firm characteristics such as type of industry, firm size, firm age and etc., and other several studies choose incentive compensation, ownership structure, and organizational form as proxies for motivational items for tax avoidance activity (Graham and Tucker, 2006; Desai and Dharmapala, 2005; 2006; 2009; Lim, 2010; 2011; and etc.).

Under this line of researches we can outline some consequences and determinants of tax avoidance. For example, corporate tax avoidance is negatively linked with the level of option-based executive compensation, and this negative relationship is mostly driven by poorly governed companies (Desai and Dharmapala, 2006). Inference from this is that companies with lower institutional ownership are more likely in anti-takeover provision. Furthermore, there exist strong positive feedback effects between tax avoidance activity and the diversion of rents by managers, that is, increased level of tax enforcement may raise firm value, in spite of the firm`s increased tax payments (Desai, Dyck, and Zingales, 2004). Moreover, a corporate Laffer curve, which illustrates the concept of taxable income elasticity (that taxable income will change in response to changes in the rate of taxation), could exist that is a function of the governance environment and levels of insider ownership (Desai et al., 2004). Thus, it can be seen from above discussion that both incentive compensation and other governance mechanisms play an important role in corporate tax avoidance.

In this study is used book-tax difference (BTD) as proxy for the measurement of tax avoidance activity. As we know book-tax differences are differences between income reported to capital markets and tax authorities. The literature on taxation e.g. on tax avoidance, tax planning and tax sheltering holds the view that the positive book-tax differences and a low effective tax rates reflect the behavior of tax avoidance (Plesko, 2004). Accordingly, the growing book-tax differences and lower effective tax rate for the state of U.S. corporations since the mid 1990's have stimulated researchers to explore the determinants and consequences of corporate tax avoidance activities (Desai and Dharmapala, 2009b; Graham, 2003; Shackelford and Shevlin, 2001).

Purported growth in corporate tax avoidance leads to two alternative points of view on the incentives and consequences of this activity. First of them is that tax avoidance is perceived as extension of other tax-favored activities, and second is related to agency problem, that is, tax avoidance is perceived as a tool of the creation a

shield for managerial opportunism and diversion of rents. In the term of first alternative point of view, corporate tax avoidance is stated as an extension of other tax-favored activities, such as the use of debt (Graham and Tucker, 2006; Kim, 2010; Lim, 2010, 2011 etc.). In this point of view, it is found that tax shelters serve as a substitute for interest deduction in determining capital structure (Graham and Tucker, 2006); but it is not taken into account the institutional ownership. Moreover, tax avoidance can be used as a substitution of debt, as it is negatively linked to the cost of debt; furthermore, this linkage may become stronger when institutional ownership is high (Lim, 2011). Second alternative view emphasizes the interaction of tax avoidance and agency problems. According to this view, theoretically corporate tax avoidance can create a shield for expedience activities of managers and diversion of rents (Desai and Dharmapala, 2006). It is briefly discussed in section 3.3 and 3.4.

Taken together all above stated studies, these studies expand research area on corporate tax avoidance by changing its focus from firm characteristics (e.g. profitability, firm size, firm age and etc.) to a range of aspects unique for publicly-held companies (e.g. executive compensation plan, institutional ownership structure) as determinants corporate tax avoidance. These studies, however, also suggest that there are largely unexplored areas to explain the consequences of tax avoidance and its interaction with institutional ownership.

2.2 Cost of Debt and Debt – Substitution

Cost of debt is traditionally defined as the effective rate that a company pays on its current debt. A company will use various bonds, loans and other forms of debt, so this measure is useful for giving an idea as to the overall rate being paid by the company to use debt financing. Cost of debt measure can also give investors an idea as to the riskiness of the company compared to others, because riskier companies generally have a higher cost of debt.

The cost of debt of any firms is impacted by numerous factors, such as the characteristics of the firm, agency costs, and default risk for the bond issue, and the information asymmetry problem (Bhojraj and Sengupta, 2003), interest rate (Diamond, 1989), leverage and cash flow from operations (Petersen and Rajan, 1994), and firm size (Carey et al., 1993). As stated in previous section, if corporate tax avoidance serves as a substitute for the use of debt (Graham and Tucker, 2006; Lim, 2010; 2011, Kim, 2010), it could increase financial slack, enhance credit quality, lower default risk, reduce expected bankruptcy costs, and consequently, reduce the cost of debt (Lim 2011). On another hand, since firms use less debt when they take part in tax avoidance activity (Graham and Tucker, 2006), tax shelters serve as a substitute for interest deductions in determining the capital structure and cost.

As mentioned before tax avoidance activities can transfer wealth from government to companies, and consequently leave more resources available for companies to serve debt obligations. Cost saving from corporate tax avoidance activities can be valuable source of financial slack, that is, the readiness access to cash or debt financing, since statutory tax rate comprises more than one-third of firms profits (Kim, 2010). Since tax shelters are form of tax shields, the firms engaged in tax shelters actually have both a lower debt level and cash flow savings from tax shelters which can substitute the debt-induced interest expense deductions from taxable

income (Graham and Tucker, 2006). In short, theoretically, the existence of non-debt tax shields makes the use of debt less effective or even ineffective in increasing firm value, thereby reducing corporate demand for debt usage (DeAngelo and Masulis, 1980).

2.3 Cost of Debt, Institutional Ownership and Corporate Tax Avoidance

During the beginning of the financial crisis in 1997 some companies went bankrupt in Malaysia. Moreover, in Malaysia, attempts to contain further devaluation caused higher level of interest rate and credit contraction. This created severe contractions in output and corporate profitability which was reflected in massive fall of equity prices. The Kuala Lumpur Composite Index declined by 72% during the period from end-June 1997 to end-August 1998 (Zulkafli et al., 2009). Real estate markets declined sharply due to high interest rates and in crisis environment. This event caused debtholders to suffer from bankruptcy or experience a debt-equity swap, thereby causing them to become vulnerable to managerial malfeasance or diversions. Furthermore, because of the weak governance in Malaysia, which controlling shareholders used to exploit outside investors, debtholders became interested in mitigating agency conflicts between controlling shareholders and debtholders through the implementation of good corporate governance practices in Malaysia. Thus, tax avoidance could reduce the transparency of Malaysian firms, which enables controlling shareholders with the opportunity to extract rents from debtholders, thereby resulting in a higher cost of debt.

As stated in section 2.2, institutional ownership has big influence on engaging in tax avoidance. This interaction can be seen from above given Malaysian case. This study is used institutional ownership as to examine its effect on the interaction between tax avoidance and the cost of debt. The level of institutional ownership is the primary measure of the quality of shareholder activism (Desai and Dharmapala, 2009). The basic motivation for this is that institutional investors have greater incentives and a greater capacity to monitor managerial performance (e.g., Shleifer and Vishny, 1986; Chung et al., 2002; Bhojraj and Sengupta, 2003; Hartzell and Starks, 2003; Desai and Dharmapala, 2009). In particular, institutional shareholders, by virtue of their large stockholdings, have greater incentive to monitor corporate performance of the firms (Shleifer and Vishny, 1986), as well as institutional investors play a monitoring role in terms of executive compensation contracts (Hartzell and Starks, 2003). When institutional investors possess a large percentage of shares of the firm, there is less use of discretionary accruals (Chung, 2002), which means that the decrease in agency problems between managers and shareholders leads the increase in institutional investor ownership. In terms of consequence, large proportion of institutional ownership sheds to lower yield of new bond issues (Bhojraj and Sengupta, 2003).

Recently, studies of taxation and corporate governance have been converging in an emerging literature due to the linkage between corporate tax avoidance and the level of institutional ownership. The corporate tax makes the state the largest amount of minority shareholders in most corporations (Desai, Dyck and Zingales, 2004), and consequently, the firms` workings of corporate tax may influence, and, indeed, be influenced by the interaction between managers and outside shareholders (Desai and Dharmapala, 2005b). Furthermore, some complementarities may exist between corporate tax avoidance and diversion of management due to the covertness of income from tax authorities through complex operations decrease the ability of outside

shareholders to monitor manager behavior, thereby making leaks less costly for managers (Desai and Dharmapala, 2009a, b). Such kind of relationships can be seen to be functioning based on evidence from Russia and differences between countries in the way in which corporate tax revenue respond to changes in tax rate (Mironov, 2010).

Institutional ownership possess higher incentives and ability to monitor managerial performance (Shleifer and Vishny, 1986; Chung et al., 2002; Hartzel and Starks, 2003; Bhojraj and Sengupta, 2003; Desai and Dharmapala, 2009). So, when the level of institutional ownership is high, the scrutiny over managerial performance also becomes at great degree. As consequence, the conflict of interests between managers and debt-holders will be less important. In the turn of consequences, institutional investors could reduce the cost of debt through alleviating agency conflicts, decreasing the opportunities for employing tax avoidance techniques prevailing the managerial rent diversion (Lim, 2011).

Firm-level corporate governance, more exactly, institutional ownership are found to be important and relevant determinant of high-powered incentives in shifting sheltering decisions and tax avoidance activities (Desai and Dharmapala, 2005a, b; 2006; 2009a, b). Manager-agents can be opportunistic in using technological complementarities between avoiding from taxes and diversion, due to the ambiguity of the relationship the decisions in tax avoiding and managerial incentives, and its dependence on the linkage between avoidance techniques and leakage (Desai and Dharmapala, 2006). While the average relationship is ambiguous and function of technological linkages, the governance characteristics of firms could mediate these opposing forces (Desai and Dharmapala, 2006). And, it can be inferred from that, as consequence, in well-governed firms may exist more positive linkages between managerial incentives and decisions on tax sheltering, regardless of the relationship between incentives and tax avoidance. Moreover, since managerial rent diversion reduce information asymmetry and create moral hazard problems, corporate tax avoidance may cause the increase the problem between management and debt-holders (Lim, 2011). The intuition for these contrary results of the interaction between tax avoidance decisions and managerial incentive are that high-powered incentives make managers behave like shareholders (Desai and Dharmapala, 2006).

As stated earlier, according to the agency perspective which emphasizes the relationship between corporate governance and corporate taxes tax avoidance activities can create shields for managerial opportunism and diversion of rents (Shackelfold and Shevlin, 2001; Desai and Dharmapala, 2006, 2009; Desai et. al., 2007; Wilson, 2009; Chen, 2010). As the firms using actively tax sheltering with the high level of institutional ownership exhibited positive abnormal returns, tax shelter will be a tool of wealth creation in well-governed companies (Wilson, 2009).

Additionally, another important issue is that the unique agency conflict between majority and minority shareholders in the firms owned by the founding family`s members (Chen, 2010). The ownership structure may effect on different tax aggressive behavior between family firms and non-family firms. The family firms less tax than their non-family counterparts (Cheng, 2010). That is because, important determinant of tax aggressiveness managerial is the managerial or insider control of the firms (Shackelford and Shevlin, 2001).

Does corporate tax avoidance effect on firm value? The answer is: "Yes, but only when the level of institutional ownership is high". Nevertheless the average effect of corporate tax avoidance on the firm value is not significant, in term of higher quality of corporate governance, measured as a higher level of institutional ownership, sheds to favourable effect of tax avoidance on firm value (Desai and Dharmapala, 2009). If all studies on corporate tax avoidance are taken together, it can be observed that prior studies imply that corporate tax avoidance are positively related with firm value, whereas recent studies suggest that this relationship will differentiate depending on the level of institutional ownership (Desai, Dyck, and Zingales, 2007; Desai and Dharmapala, 2009; Lim, 2010, 2011 and etc.), and the latter studies are known as the agency view of tax avoidance. The agency view of tax avoidance suggests that corporate tax avoidance may be negatively associated with firm value in the presence of low level of institutional ownership (Desai and Dharmapla, 2009).
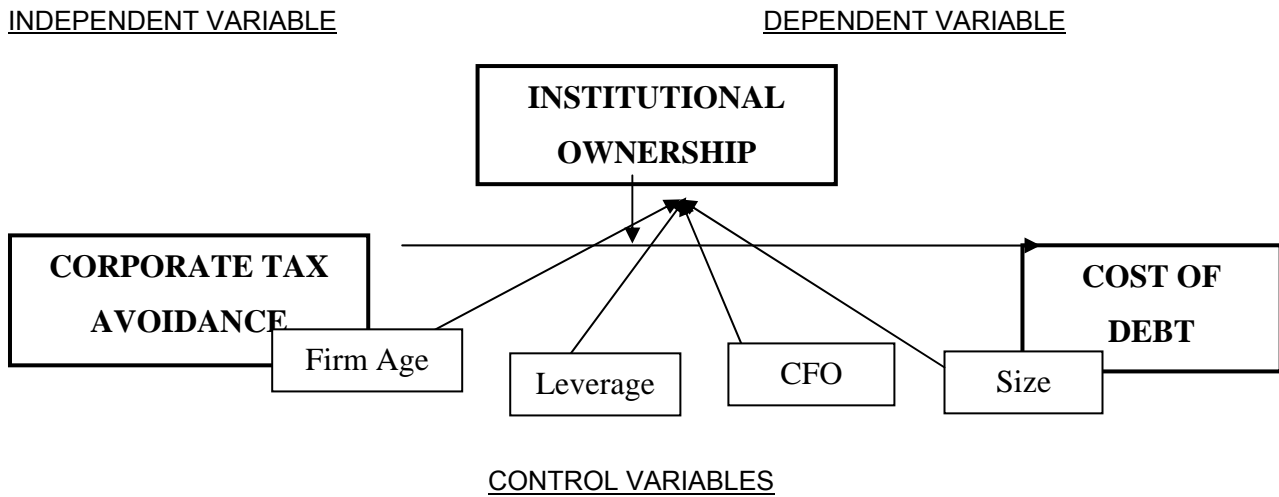
This negative association can be explained as follows. Tax avoidance strategies are designed by creating information asymmetry between tax authorities and the firm so that to prevent th detection from tax authorities (Desai and Dharmapala, 2009). However, the direct impact of this activity is increased information asymmetry between managers and outside shareholders, and consequently, the increase in information asymmetry will decrease the ability of shareholders to value the firm (Wang, 2010). Furthermore, if investors become aware of the intention of the use tax avoidance strategies that intended to redirect resources away from tax authorities, they may be in turn concerned about managerial potential to redirect the resources away from them to managers (Hanlon and Slemrod, 2007). That is why, tax avoidance is not valued by shareholders and is in fact value reducing (Wahab and Holland, 2011). Thus, investors discount firm value, in response to increased information asymmetry and managerial diversion of rents.

Taken together all discussed papers corporate tax avoidance is tested in settings that include managerial compensation (Desai and Dharmapala, 2006; Wilson, 2009 and etc.), the level of institutional ownership (Desai and Dharmapala, 2009; Lim, 2011; Chen, 2010), tax sheltering (Wilson, 2009; Hanlon and Slemrod, 2009), and firm value (Desai and Dharmapala, 2009). Most of these papers find that level of institutional ownership impacts on corporate tax avoidance decisions.

3. Hypothesis Development and Methodology

3.1 Theoretical Framework and Hypothesis Development

This study tries to investigate the effects of corporate tax avoidance on cost of debt and examine its interaction effect with shareholder activism. The theoretical framework model of this study is given in Figure 3.1

Figure 3.1: Theoretical Framework

INDEPENDENT VARIABLE   DEPENDENT VARIABLE

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                          ┌──────────────────────┐
                          │   INSTITUTIONAL       │
                          │     OWNERSHIP         │
                          └──────────────────────┘

┌──────────────────────┐                              ┌──────────────────┐
│  CORPORATE TAX       │                              │   COST OF        │
│   AVOIDANCE          │                              │   DEBT           │
└──────────────────────┘                              └──────────────────┘
        ┌────────────┐   ┌──────────┐  ┌────────┐  ┌────────┐
        │  Firm Age  │   │ Leverage │  │  CFO   │  │  Size  │
        └────────────┘   └──────────┘  └────────┘  └────────┘
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CONTROL VARIABLES

Corporate Tax Avoidance and Cost of Debt

Tax shelters being a non-debt tax shield that substitute for the use of interest tax deductions (DeAngelo and Masulis, 1980). This issue, as stated in literature review of this study, is investigated many times by several profound world researchers. And, most of them suggest that firms select a level of debt that is negatively related to the level of non-debt tax shields, such as depreciation deductions or investment tax credits (DeAngelo and Masulis, 1980; Graham and Tucker, 2006), while others suggest that depreciation and investment tax credits can substitute for debt (Mackie-Mason, 1990; Trezevant, 1992).

Furthermore, according to literature, tax avoidance activities perceived as an extension of tax-favoured activity. Mostly, the use of tax shelters is positively associated with firm characteristics, such as size and profitability (Graham and Tucker, 2006). Moreover, tax shelters serve as a substitute for interest deductions in determining the capital structure (Graham, 2004).

The cost of the debt of a firm is influenced by the characteristics of the firm and those of the bond issue that affect default risk, agency costs, and the information asymmetry problem (Bhojraj and Sengupta, 2003). If tax avoidance serves as a substitute for the use of debt (Graham and Tucker, 2006; Lim, 2010), it could increase financial loose, reduce expected bankruptcy costs, enhance credit quality, and therefore, reduce the cost of debt (Lim, 2011). The credit ratings of tax shelter firms improved one point, as compared with same firms in the years leading up to the beginning of the tax shelter, most likely because of declining debt ratios (Graham and Tucker, 2006). Furthermore, the negative impact of leverage on ratings was three times stronger under the endogenious nature of leverage (Molina, 2005).

Based on the above discussion, corporate tax avoidance can serves as a debt – substitution for firms. Tax savings gained from the use of tax avoidance techniques can be used by the firms to finance their projects without debt financing. Consequently, if firms borrow less debt, their cost of debt will be low. It means that corporate tax avoidance is negatively related to the cost of debt; high level of tax savings, low degree of the cost of debt. This relationship between the tax avoidance and the cost of debt is consistent with the trade – off theory, which is considered the balance between the dead – weight costs of bankruptcy and the tax saving benefits of debt (Kraus and Litzenberg, 1973). Furthermore, these arguments lead to the study's first hypothesis:

H1. Tax avoidance is negatively associated with the cost of debt.

Corporate Tax Avoidance, Cost of Debt, and Institutional Ownership

Another side of the interrelation of corporate tax avoidance and cost of debt is the effect of institutional ownership. From the institutional ownership perspective, in other words, the agency perspective that emphasizes the relationship between corporate governance and corporate tax avoidance activities can create a shield for managerial opportunism and the diversion of rents (Shackelford and Shevlin, 2001; Desai and Dharmapala, 2006, 2009; Desai et al., 2007; Wilson, 2009; Chen et al., 2010). So as corporate tax sheltering and the diversion of rents by managers are interrelated, strong complementarities may exist between the two activities. That is because, hiding income from tax authorities through complex transactions reduces the ability of shareholders or investors to observe managerial behaviour, thereby making the diversion less costly for managers (Desai et al., 2007).

The quality of corporate governance leads to effect of tax avoidance on firm value i.e. for well-governed firms it leads to favourable outcome (Desai and Dharmapala, 2009). As well, tax sheltering can serve as a tool for wealth creation in well-governed firms (Wilson, 2009).

The primary measure of the quality of shareholder activism is the level of institutional ownership (Desai and Dharmapala, 2009). The basic motivation for this is that institutional investors have greater incentives and a greater capacity to monitor managerial performance (e.g., Shleifer and Vishny, 1986; Chung et al., 2002; Bhojraj and Sengupta, 2003; Hartzell and Starks, 2003; Desai and Dharmapala, 2009). Institutional shareholders have greater incentives to monitor corporate performance due to virtue of their large stockholdings (Shleifer and Vishny, 1986). One more feature of institutional investors is that agency problems between managers and shareholders decrease with an increase in institutional investor ownership (Chung et al., 2002). Nevertheless larger institutional ownership proportions are associated with lower yields on new issue of bond (Bhojraj and Sengupta, 2003), institutional investors play a monitoring role in regard to the executive compensation contracts (Hartzell and Starks, 2003). Desai and Dharmapala (2009) use institutional ownership as the primary quality of corporate governance.

If, on the one hand, the level of institutional ownership leads to favourable outcome of tax avoidance (Desai and Dharmapala, 2009), and on the another hand, corporate tax avoidance is negatively associated with cost of debt, the level of institutional ownership can have a negative effect on the cost of debt by alleviating the

agency, costs as well as reducing opportunities for managerial rent diversion associated to corporate tax avoidance. So, this argument shed to the following second hypothesis of this study:

H2. The relationship between corporate tax avoidance and the cost of debt is moderated by the level of institutional ownership.

3.2 Measurement of Variables

3.2.1 Dependent Variable

The cost of debt is the effective rate that a company pays on its current debt. In other words, the cost of debt is the interest rate on the debt of the firm. This can be measured in either before- or after-tax returns; however, because interest expense is deductible, the after-tax cost is seen most often. This is one part of the company's capital structure, which also includes the cost of equity.

The cost of debt is calculated as the firms interest expense for the year divided by the average short-term and long-term debt during the same year (Pittman and Fortin, 2004). The formula of calculation is:

$$The\ Cost\ of\ Debt = \frac{2(\text{Interest expense for the year})}{(\text{Short} - \text{term debt}) + (\text{Long} - \text{term debt})} \qquad (1)$$

3.2.2 Independent Variables

Corporate Tax Avoidance

As mentioned in the literature review, tax avoidance is traditionally defined as a transfer of value from the state to shareholders, whereas Hanlon and Heitzman (2009) define it as the reduction of explicit taxes per dollar of pre-tax accounting earnings. Due to its nature, tax avoidance is extremely difficult to measure (Desai and Dharmapala, 2006, 2009). This study is used book – tax difference (BTD) as a proxy for corporate tax avoidance which is developed by Manzon and Plesko (2002) and followed by Desai and Dharmapala (2006, 2009).

Constructing the measure of corporate tax avoidance takes two sub-measurements, such as book-tax difference (BTD) and total accruals (TA). Book-tax difference is the difference between financial income e.g. income reported to capital markets and taxable income e.g. income reported to tax authorities (Desai and Dharmapala, 2006, 2009). BTD can be raised by two ways:

➢ Earning management, that is, by the manipulation of financial statements and the increase opportunistic financial income;

➢ Tax avoidance, that is, by deliberately decreasing taxable income.

So as to BTD cannot necessarily reflect corporate tax avoidance itself (Desai and Dharmapala, 2006, 2009), total accruals are used for controlling other factors e.g. earning management as stated above. According to the Desai and Dharmapala (2006), total accruals are calculated as ordinary income minus cash flow from operations.

Based on the literature, the equations of corporate tax avoidance components e.g. book-tax difference (BTD) and total accruals (TA) are as follows (Desai and Dharmapala, 2006, p 15):

$$BTD_{it} = FI_{it} - TI_{it} \qquad\qquad (2)$$

BTD_{it} – book-tax difference for firm i in year t;

FI_{it} – financial income;

TI_{it} – taxable income.

Financial income is the income reported to capital markets, and it is the firm`s pre – tax income given in the income statement. Taxable income is not disclosed in the financial statements. Due to the confidentiality of tax returns, this study is used tax information available in a firm`s financial statements to estimated the firm`s taxable income. This method is developed by Manzon and Plesko (2002), and used by Desai and Dharmalapa (2006, 2009). Taxable income is estimated as following (Desai and Dharmapala, 2006, p 15):

$$TI_{i,t} = \frac{\textbf{Current Domestic Tax Expense}}{\textbf{Tax Rate}} \qquad\qquad (3)$$

Thus, the estimation of taxable income is based on the current portion of domestic income tax expense divided by statutory rate, i.e. in this study are 28% in 2005 and 2006, 27% in 2007, 26% in 2008, 25% in 2009 (Manzon and Plesko, 2002; Hanlon and Shevlin, 2005; Desai and Dharmapala, 2006). The estimated taxable income based on financial statements data is argued as a "noisy" and full of errors (Dyreng et al., 2009). However, Hanlon et al. (2005) and Desai et al. (2006) comment that using the estimated taxable income is more appropriate that using actual taxable income because the market can use only publicly available data to assess the price share. Furthermore, Plesko (2000, 2006) provide evidence that taxable income calculated from financial statements is highly and significantly correlated with firms' actual taxable income. Thus it provides some assurance that taxable income estimated from financial statements is a reasonable proxy for a firm's actual taxable income.

Equation for computing total accrual is as follows (Desai and Dharmalapa, 2006, p 17):

$$TA_{it} = OI_{it} - CFO_{it} \qquad\qquad (4)$$

TA_{it} – total accrual for firm i year t;

OI_{it} – ordinary income;

CFO_{it} – cash flow from operations.

Institutional Ownership

The level of institutional ownership ($Inst_{it}$) is the measurement of the quality of corporate governance (Desai and Dharmapala, 2009). This term refers to the ownership stake in a company that is held by large financial organizations, pension funds or endowments. Institutions generally purchase large blocks of a company's outstanding shares and can exert considerable influence upon its management. The basic motivation to use institutional ownership as a proxy of the quality firm`s governance is that institutional owners have greater incentives and capacity to monitor managers behavior (Desai and Dharamapala, 2009).

It is derived to measure of institutional ownership ($Inst_{it}$) from formula constructed by Desai and Dharmapala (2006). It is calculated as a fraction (the percentage) of the equity shares of the firm that are owned by the institutional investors.

3.2.3 Control Variables

In this study`s research model it is included several control variables which can affect the dependent variable – the cost of debt. Pittman and Fortin (2004) also use some control variables that affect debt pricing. Control variables are firm age, Leverage, CFO, Size, and Negequity. The definition and measurement are as follows.

Age

Firm age is used as a control variable. That is because, interest rates will decline over time as firms compile good credit histories (Lim, 2011). The measurement of firm age is the number of years since the firm went public.

Leverage

Leverage has positive relationship with the interest rate (Petersen and Rajan, 1994). The measurement of this control variable is calculated as the short – term and long – term debt scaled by total asset.

CFO

CFO is cash flow from operations. Cash flow from operations is the variable for profitability. Firms can be in a better position to service their debt when they are able creating more cash flow from operations (Petersen and Rajan, 1994). It is computed as cash flow from operations divided by total assets.

Size

Since creditors perceive larger firms as less risky and there are economies of scale in debt production costs, there is negative relationship between interest rates and firm size (Carey et al., 1993). So, firm size also has the impact on debt pricing. It is measured as the natural logarithm of total assets (Lim, 2011).

3.3 Data Collection

In this study, it is used secondary data which are collected from Thomson Reuters Data Stream and the annual reports of the companies, listed in Bursa Malaysia's main board, in the sample.

3.3.1 Sample Selection

Sample companies are selected from the main board of Bursa Malaysia. The time period that is examined in this study covers 2005 through 2009. The initial sample consists 862 companies; the total of 4310 firm-year observations. It is excluded following 162 companies: financial and insurance companies, banks, and real estate companies. That is because, their financial characteristics are difference from other industrial companies (Desai and Dharmapala, 2006, 2009; Lim, 2010, 2011; Wang, 2010). Also, it is restricted the sample to those firms whose financial information is not available in the sample period from 2005 to 2009. Furthermore, it is excluded the firms which have negative income tax expense, and the firms that they ended the year with loss. That is because firms generating taxable loss in one year could carry that loss back to offset taxable income in the three previous years or forward to offset taxable income earned in the subsequent 15 years, hence this thing may limit to estimate corporate taxable income (Manzon and Plesko, 2002). After these procedures, the final sample includes 110 companies and 550 firm-year observations. The result of these procedures in the cost of debt sample is reported in Table 2.

Table 3.1: Sample selection summary

Sample selection procedures	Number of firms	Number of firm-years
Sample of the study		
Number of listed companies In main board of Bursa Malaysia	862	4310
Less: financial and insurance firms	(162)	(810)
Less: the firms without relevant data	(354)	(1770)
Less: the firms with negative tax expense	(80)	(400)
Less: the firms which ended year with loss	(85)	(425)
Less: non–December year–end firms	(71)	(355)
Final Sample	**110**	**550**

3.3.2 Sample Composition

Table 3 presents information with respect to the sample composition. The financial data are obtained from the Thomson Reuters Data Stream, and industry classification is taken from Bursa Malaysia. Table 3 shows

the industry representation. The sample consisted for 22.7 percent of the firms manufacturing industrial products, for 20.9 percent of consumer products companies, for 13.6 percent of construction, and for 11.1 percent of technological firms. Those are the four largest represented industries.

Table 3.2: Industry representation

Industry description	Frequency	Percentage
Construction	15	13.6
Consumer products	23	20.9
Hotels	3	2.7
Industrial products	25	22.7
Farming	9	8.2
Plantation	4	3.6
Technology	12	11.1
Health Care	3	2.7
Oil and Gas	5	4.5
Telecommunication	5	4.5
Consumer Services	6	5.5
Total	**110**	**100**

Note: The industries are defined according to the industry classification of Bursa Malaysia.

3.5 Research Model Specification

In this study two hypothesis are examined. While the main hypothesis of the study concerns the relationship between corporate tax avoidance and the cost of debt, the effect of institutional ownership on the interaction of these two items is also of considerable interest. For testing these two hypothesis it is used regression model derived from Desai and Dharmapala (2009) and Lim`s (2011) models. Lim (2011) use discretionary accruals to isolate the component of the BTD that is attributable to earning management. But, as stated earlier, in this study it is employed total accruals following Desai and Dharmapala (2009). Based on the literature following model is constructed as a main model of the study to examine the impact of corporate tax avoidance on the cost of debt of firm:

$$COD_{i,t} = \alpha_{1i} + \alpha_{2i}BTD_{i,t} + \alpha_{3i}TA_{i,t} + \alpha_{4i}Age_{i,t} + \alpha_{5i}Leverage_{i,t} + \alpha_{6i}CFO_{i,t} + \alpha_{7i}Size_{i,t}$$
$$+ \upsilon_i + \mu_t + \varepsilon_{it} \tag{5}$$

Where:

$COD_{i,t}$ = Cost of Debt, is the interest rate on the debt of the firm calculated as the firms interest expense for the year divided by the average short-term and long-term debt during the same year;

$BTD_{i,t}$ = Book-Tax Difference, is the one of the sub-measurement proxy of tax avoidance calculated as financial income minus taxable income, scaled by lagged total assets;

$TA_{i,t}$	=	Total accruals, is the second sub-measurement proxy of tax avoidance calculated as ordinary income minus cash flow from operations, scaled by the lagged total assets;
$Age_{i,t}$	=	Firm age, is the number of years since the firm went public;
$Leverage_{i,t}$	=	firm`s short and long-term debt scaled by total assets;
$CFO_{i,t}$	=	Cash from Operations divided by total assets;
$Size_{i,t}$	=	Firm Size, is calculated as natural logarithm of total assets;
υ_i	=	Firm fixed affects;
μ_t	=	Year fixed effects;
εit	=	is the error term.

For examining second hypothesis where it is taken into account the effect of the institutional ownership (Inst) on the relationship between tax avoidance and cost of debt, it is included institutional ownership variable (Inst). The regression model is as follows:

$$COD_{i,t} = \alpha_{1i} + \alpha_{2i}BTD_{i,t} + \alpha_{3i}TA_{i,t} + \alpha_{4i}Inst_{i,t} + \alpha_{5i}Age_{i,t} + \alpha_{6i}Leverage_{i,t}$$
$$+ \alpha_{7i}CFO_{i,t} + \alpha_{8i}Size_{i,t} + \upsilon_i + \mu_t + \varepsilon_{it}$$

$$(6)$$

Where:

$Inst_{i,t}$	=	Institutional ownership, is the sum of ownership by government, banks, security companies, insurance companies, and foreign investors, except for individual investors, at the end of the year t.

Other variables are defined above.

4. Analysis and Findings

4.1 Descriptive Statistics

Table 4.1 presents the descriptive statistics e.g. summary of mean, minimum, maximum, and standard deviation for the variables used for analysis in the study.

Table 4.1: Descriptive Statistics

Variable	Number of firm – years	Mean	Min.	Max.	Standard deviation
COD	540	0.115	0	1.271	0.085
BTD	540	0.603	0.079	93.963	5.374
TA	540	-0.135	-26.556	11.021	1.827
CFO	540	0.080	-0.243	0.634	0.097
SIZE	540	13.281	10.593	17.601	1.227
LEVERAGE	540	22.764	0.010	67.180	15.671
AGE	540	11.787	1.000	25.000	5.638
INS	540	0.140	0.011	0.760	0.122

Based on the table 4.1, the mean BTD is 0.603, suggesting that financial income is greater than taxable income. Moreover, maximum of BTD is 93.962. It is reasonable huge difference between financial and taxable income. The mean TA is -0.135, implying that cash flow from operation is reasonably greater than ordinary income of the sample companies. The mean value of COD is 0.115. The mean value of INS is 0.140, meaning that the average the level of institutional ownership of the sample firms is 14 percent; the least level of the sample firms' institutional ownership is 1.1 percent, whereas the highest level is 76 percent. So, the level of institutional ownership of the sample firms varies extremely, hence this great variation is critical for investigating the effect of institutional ownership. The descriptive statistics for control variable LEVERAGE shows that the mean is 22.764 among the sampled firms, ranged from 0.01 to 67.180. This means that the average of the use of debt is 22.764 percent, whereas lowest degree the reliance on debt is 0.01 percent, and the highest reliance on debt is 67.180 percent among the sample firms. The average age of the sample firms is 11 years. The sample comprises from the youngest companies, founded 1 year ago, to the oldest firms which was established 25 years ago.   Other control variables' summaries are given Table 4.1.

As in Table 4.1 it can be seen that the number of firm – year observation is initially 550. Then, the sample of study is reduced to 540 firm – year observation compared to initial sample due to the outliers which are often indicative of measurement error (Grubbs, 1969). Outliers are discarded from the sample to maintain the robustness to outliers that will be briefly discussed in subsection 4.4.1.

4.2 Univariate Analysis

The correlation coefficient represents the linear relationship between two variables. The most widely-used type of correlation coefficient is Pearson r, also called linear or product – moment correlation. The significance level calculated for each correlation is a primary source of information about the reliability of the correlation.

Table 4.2 provides Pearson correlations among COD, tax avoidance, institutional ownership, and other control variables for the full sample of 540 firm – years for the 2005 to 2009. Overall, Pearson correlation results produce considerable correlation between most variables. Most of the variables are significant correlated at 1%-level (2-tailed), except TA and SIZE.

Table 4.2: Pearson Correlation Matrix

	COD	BTD	TA	CFO	SIZE	LEVERAGE	AGE	INS
COD	1.000							
BTD	-0.130***	1.000						
TA	-0.005	0.002	1.000					
CFO	0.125***	-0.001	-0.147	1.000				
SIZE	-0.162***	0.048	-0.244***	0.13**	1.000			
LEVERAGE	-0.249***	-0.013	0.019	-0208***	0.333***	1.000		
AGE	-0.047	-0.106	-0.089**	0.149***	0.325***	-0.048	1.000	
INS	0.104**	0.381***	0.031	0.029	0.0436	-0.193***	-0.044	1.000

Note: The superscript asterisks indicate the significance at p – values less than 0.05(**), 0.01(**), and 0.1(*).

The correlation between COD and BTD is -0.130, negative and significant at the 1%-level (2-tailed). It suggests that companies that engage in corporate tax avoidance activities experience a significantly lower cost of debt. Furthermore, COD is significant and positive correlated with INS at 0.104. The correlations between COD and other control variables CFO (0.125), SIZE (-0.1620), and LEVERAGE (-0.249) are significant. TA and AGE are insignificant in the correlation with COD.

4.3 Multivariate Analysis

In this section, two hypotheses are tested using OLS regression models. This section starts with regression diagnostics, and then, first hypothesis, tax avoidance is negatively associated with the cost of debt, is examined in the 4.4.2 sub – section. And in the subsequent sub – section second hypothesis, the relationship between corporate tax avoidance and the cost of debt is moderated by the level of institutional ownership, is tested.

4.3.1 Regression Diagnostics

The number of firm – year observation is initially 550 as mentioned in methodology chapter. Then, the panel data is checked for the outliers through detecting the items if residual are more than 2, and if less than -2 (Cook, 1982). Further, the firms with less than 5 firm – year observations are detected. After checking for the outliers, 10 firm–year observations are detected and deleted, hence it remains 540 firm-year observations in the final sample which is used for analysis. The reason of deleting outliers is that the outlier observations are numerically distant from the rest of the data. Since the outliers are often indicative of measurement error (Grubbs, 1969), they are discarded from the sample to maintain the robustness to outliers.

Indeed, without verifying that the data have met the assumptions underlying OLS regression, these results may be misleading. That is why, it is checked on how well the data meet the assumptions of OLS regression by multicollinearity and normality tests. Multicollinearity and normality test results are discussed in this sub-section.

When there is a perfect linear relationship among the predictors, the estimates for a regression model cannot be uniquely computed. The primary concern is that as the degree of multicollinearity increases, the regression model estimates of the coefficients become unstable and the standard errors for the coefficients can get wildly inflated. (Paetzold, 1992).

As a rule of thumb, a variable whose VIF values are greater than 10 may merit further investigation (Hair, and et. al., 2006). Tolerance, defined as 1/VIF in column 3 of Table 4.3 and Table 4.4, is used by many researchers to check on the degree of collinearity. A tolerance value is lower than 0.1 is comparable to a VIF of 10 (Hair, and et. al., 2006). It means that the variable could be considered as a linear combination of other independent variables.

First, the study' first model, that is OLS estimation equation (5), is checked for multicollinearity. The result of multicollinearity is presented in Table 4.3. Based on the table, all variables' VIF values as well as mean value are less than 10, meaning that there is no collinearity between variables. Furthermore, tolerance values of variables are more than 0.1, implying that linear combinations of other unstated independent variables are not exist in the sample of the study.

Table 4.3: Multicollinearity test results of first model

Variable	VIF	1/VIF
SIZE	1.43	0.700
LEVERAGE	1.25	0.798
AGE	1.18	0.847
CFO	1.11	0.899
TA	1.09	0.921
BTD	1.02	0.978
Mean VIF	1.18	

A multicollinearity test result of the study's second model, that is OLS estimation equation (6), is described in Table 4.4.

Table 4.4: Multicollinearity test results of second model

Variable	VIF	1/VIF
SIZE	1.45	0.688
LEVERAGE	1.33	0.754
INS	1.24	0.804
BTD	1.19	0.841
AGE	1.18	0.844
CFO	1.11	0.899
TA	1.09	0.917
Mean VIF	1.23	

The VIF results of second model are also fine. Based on the table, all variables' VIF values as well as mean value are less than 10, meaning that there is no collinearity between variables. Tolerance value of each variable is more than 0.1, implying that linear combinations of other unstated independent variables are not exist in the second model.

Many researchers believe that multiple regression requires normality. Normality of residuals is only required for valid hypothesis testing, that is, the normality assumption assures that the p-values for the t-tests and F-test will be valid (Hair, and et. al., 2006). For both models are checked for normality tests, such as Kernel Density Estimate, and Normal Probability.

Below in Figure 4.1, the result of Kernel Density Estimation for Model I is described. Kernel density estimation is a non-parametric way of estimating the probability density function of a random variable, as well as it is a fundamental data smoothing problem where inferences about the population are made, based on a finite data sample (Sheather and Jones, 1991). Based on the Figure 4.1, red curve line presents normal density of residuals, and blue curve is Kernel Density Estimate. Normal density of residuals' line is almost moving average
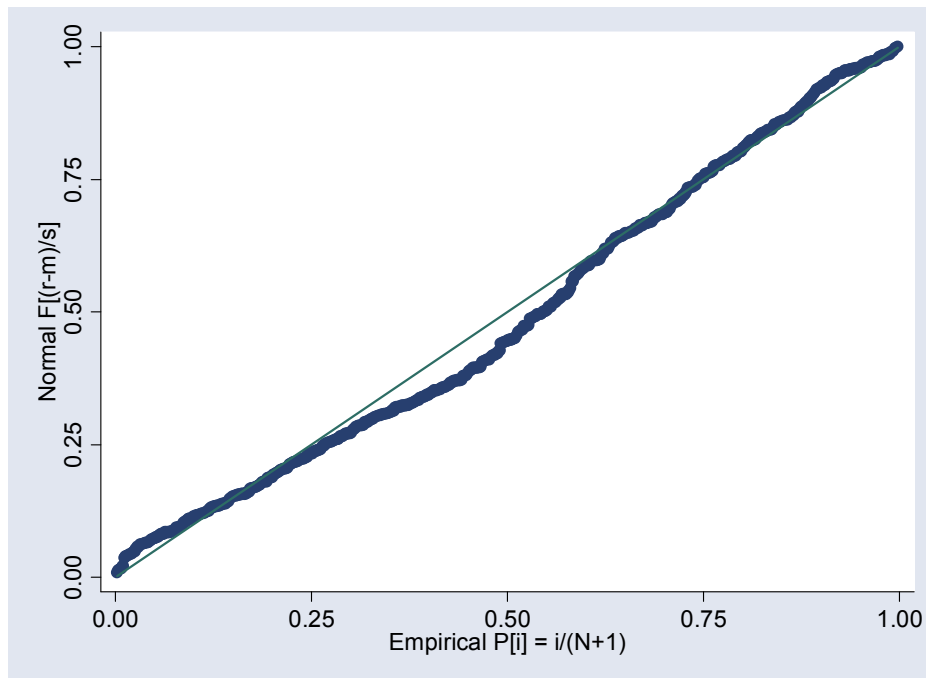
together with Kernel Density Estimate, meaning that the residuals are normal distributed, therefore reliability of model estimation is normal.

**Figure 4.1: Kernel Density Estimation for Model I**
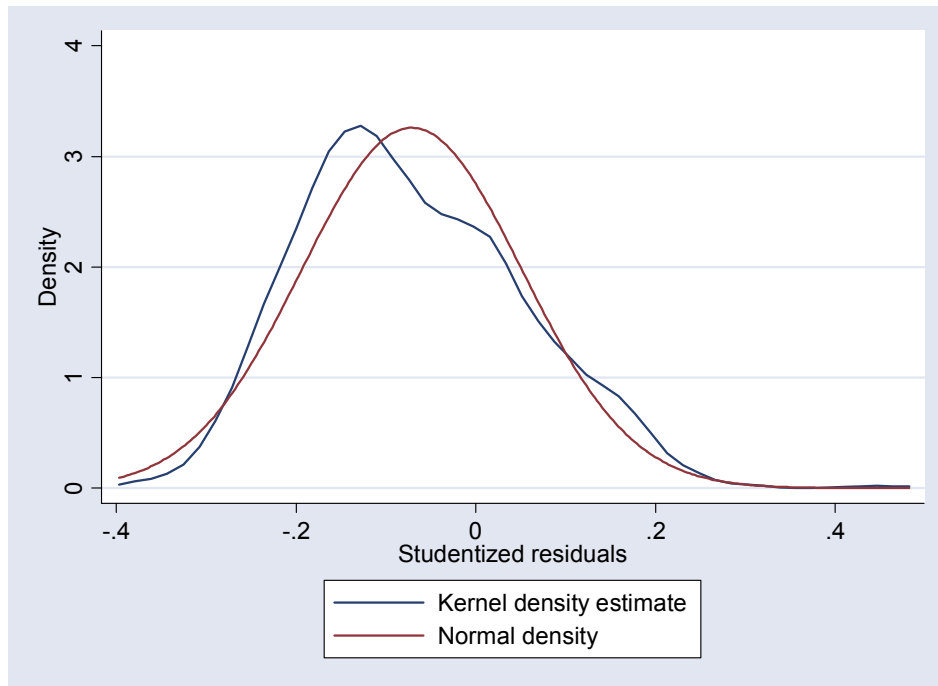
Secondly, Model I is checked for normality test by Normal Probability plot. The normal probability plot is a graphical technique for normality testing: assessing whether or not a data set is approximately normally distributed. The data are plotted against a theoretical normal distribution in such a way that the points should form an approximate straight line. Departures from this straight line indicate departures from normality (John, and et.al., 1983).

As it can be seen below in figure 4.2, the result of Normal Probability shows no indications of non – normality of Model I, because two departure points, colored in blue in Figure 4.2, start from straight line. Since Normal Probability plot is sensitive to non-normality near the tails; if both or either departure points are near to or on the normal distribution line indicates departures from normality, otherwise vice versa (John, and et.al., 1983).

**Figure 4.2: Normal Probability Graph for Model I**

Based on above mentioned normality test results of Model I, it can be confidently said that first model of the study is valid.

In Figures 4.3 and 4.4, the normality test results of Model II are portrayed. Below in Figure 4.3, the result of Kernel Density Estimation for Model II is described. As mentioned earlier, red curve line presents normal density of residuals, and blue curve is Kernel Density Estimate. Based on Figure 4.3, normal density of residuals' line is almost moving average together with Kernel Density Estimate, meaning that the residuals are normal distributed, therefore reliability of model estimation is normal.

Figure 4.3: Kernel Density Estimation for Model II
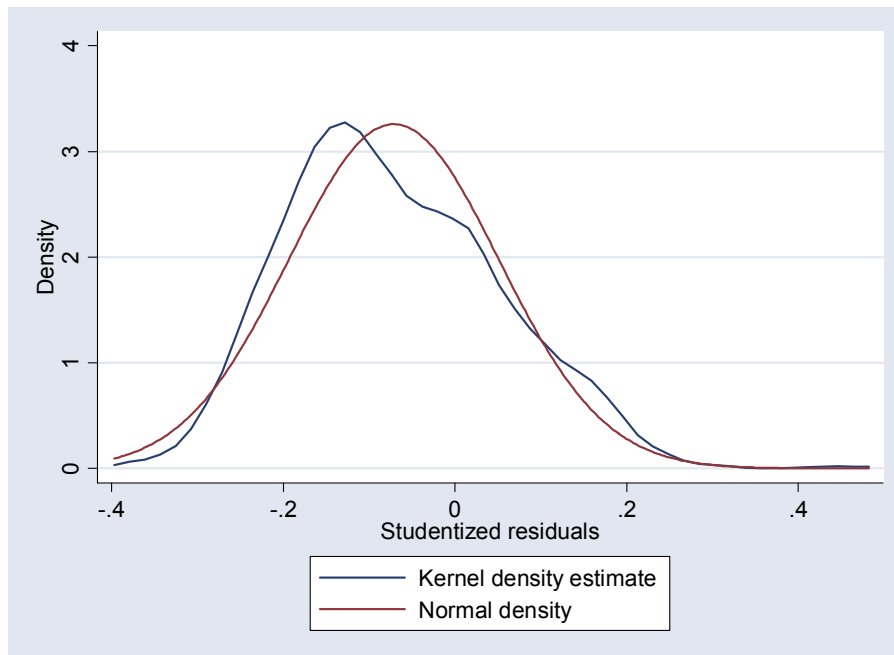
The result of the second normality test, Normal Probability, for Model II is described in Figure 4.4. The result of Normal Probability shows no indications of non – normality of Model II, as Model I, because two departure points, colored in blue in Figure 4.4, start from straight line. As stated above, since Normal Probability plot is sensitive to non-normality near the tails; if both or either departure points are near to or on the normal distribution line indicates departures from normality, otherwise vice versa (John, and et.al., 1983).

Normality tests of both, Model I and II, are almost similar to each other. This similarity implies that INS variable does not influence on the relationship among variables significantly, as the only difference between two models is variable INS.

Figure 4.4: Normal Probability graph for Model II
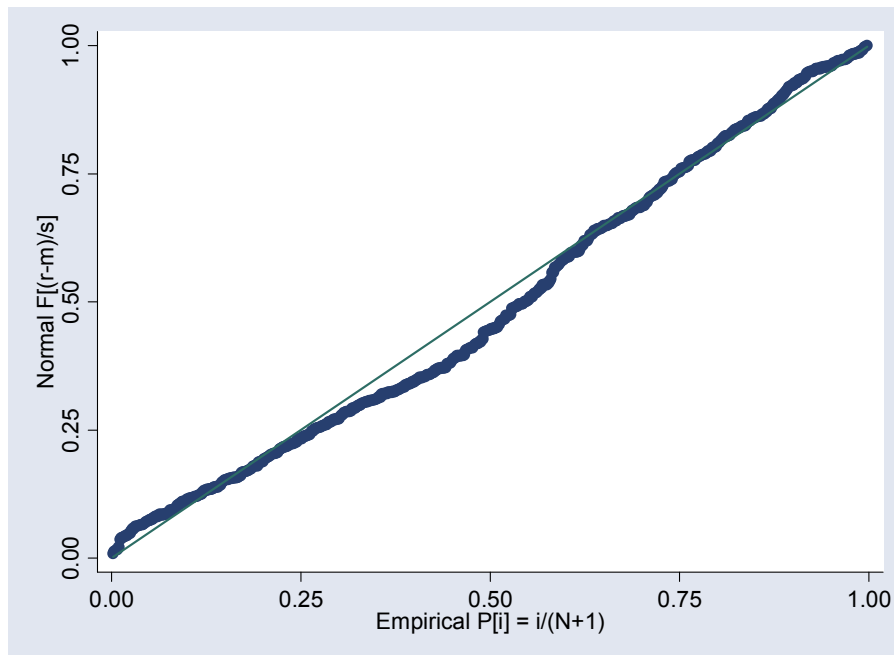
4.3.2 The relationship between cost of debt and corporate tax avoidance

The first hypothesis of this study is that tax avoidance is negatively associated with the cost of debt. This hypothesis is examined by using OLS estimation on Model I, that is, equation (5). The summary statistics are described in the second column of Table 4.5.

Based on table 4.5, the coefficient of BTD is negative and significant at – 0,002, implying that higher tax avoidance activities reduce the interest rates of firms by 0.2 percent, on average. This result suggests that corporate tax avoidance is associated to lower COD, in statistically and economically. This means that tax – favored effect of corporate tax avoidance can serve as a debt for firms, hence tax avoidance serves as a substitute for the use of debt, which is consistent with trade – off theory, and with Graham and Tucker (2006) and Lim (2011). So, the result supports the first hypothesis of this study.

The relationship between COD and BTD are explicitly controlled by adding control variables, such as, CFO, SIZE, LEVERAGE, and AGE. TA, the sub – measure of corporate tax avoidance, as well as a proxy for earning management, is insignificant. This result suggest that the accruals of the sample firms don`t impact on cost of debt, thereby there is no linkage between them. Size and age are also insignificant. So, implying from that result, there is not the influence of company size, regardless big or small, on the cost of debt. Likewise, whether company is old or young, there is not linkage with the cost of debt. Leverage (-0.001) and CFO (0.088) are significant at the 1%-level (2-tailed) and the 5%-level (2-tailed) respectively, which is consistent with Petersen and Rajan (1994), Pittman and Fortin (2004), and Lim (2011).

Table 4.5: Regression estimations – Model I, and II.

Dependent Variable: COD	Model I	Standard Error	Model II	Standard Error
BTD	-0.002***	0.001	-0.003***	0.001
TA	0.001	0.002	-0.001	0.002
CFO	0.085**	0.041	0.089**	0.040
SIZE	-0.006	0.004	-0.007*	0.004
LEVERAGE	0.001***	0.001	-0.001***	0.001
AGE	0.001	0.001	-0.001	0.001
INS	---	---	0.093***	0.353
CONS	0.221***	0.476	0.221***	0.454

Note: The superscript asterisks indicate the significance at p – values less than 0.05(**), 0.01(**), and 0.1(*).

Column 3 in Table 4.5 indicates standard error of variables estimation of Model I. The standard error of variable estimation is the estimated standard deviation of the error in the estimation; therefore, it estimates the standard deviation of the difference between estimated values and the true values (Everitt, 2003). Based on the Table 4.5, all variables' standard errors are low, and near to zero, meaning that there is a little difference between estimated values and the true values.

4.3.3 The effect of institutional ownership on the relationship between cost of debt and corporate tax avoidance.

The effects of institutional ownership for corporate tax avoidance activities on the cost of debt are investigated in this subsection. As second hypothesis of this study is that the relationship between corporate tax avoidance and the cost of debt is moderated by the level of institutional ownership, it is tested by using OLS estimation on Model II, that is, equation (6). The difference between Model I and Model II is that in Model II is included institutional ownership (INS) variable, which is the sum of ownership by government, banks, security companies, insurance companies, and foreign investors, excluding individual investors.

Column 4 of Table 4.5 indicates that the coefficient for INS is 0.093 and significant, meaning that the effect of corporate tax avoidance on the cost of debt increases accordingly with the level of institutional ownership by 9.3 percent over the year 2005 – 2009. After including INS variable into equation (6) the coefficient of BTD is changed from – 0.002 to – 0.003. The change in BTD coefficient may indicate that if the level of institutional ownership is high, the increase in tax avoidance activities reduce the interest rates of firms by 0.3 percent, which was 0.2, without effect of institutional ownership. However, after testing for determining if the change in the coefficients of BTD is significant, the result becomes unexpectedly: the coefficient of BTD change after including INS is 0.98, but insignificant. This means that the level of institutional ownership does not impact on the relationship between tax avoidance and the cost of debt, regardless the low level institutional ownership is

high or low, which is inconsistent with Lim (2011). From the result it can be inferred that institutional investors of the sample Malaysian firms do not provide enough scrutiny to which managerial actions on firms` performance are subjected. Moreover, institutional investors do not pay attention on importancy of the conflict of interests between and management and debtholders, whereas institutional investors could reduce the cost of debt by alleviating agency problems, thereby decreasing opportunities for the managerial rent diversion of tax avoidance (Lim, 2011). So, the result does not support the second hypothesis.

The control variables CFO and LEVERAGE are significant, and positive and negative, respectively. Yet, there is not significant change in both CFO and LEVERAGE after adding INS variable, meaning that the level of institutional ownership has not any impact on the linkage between CFO and COD, as well as between LEVERAGE and COD. TA and age remain insignificant, as the same in the result of Model I.

Column 5 in Table 4.5 indicates standard error of variables estimation of Model II. Based on the Table 4.5, all variables' standard errors are low, and near to zero, implying that there is a little difference between estimated values and the true values.

5. Conclusion

This study provides empirical evidence pertaining to the relations among corporate tax avoidance, cost of debt, and institutional ownership, using the listed firms in the main board of Bursa Malaysia during the tax years 2005 to 2009. Two research questions are examined: whether corporate tax avoidance activity is associated with the cost of debt, and whether the level of institutional ownership moderates the relationship between corporate tax avoidance and the cost of debt. Based on the prior studies, two hypotheses research framework are proposed and tested by using empirical data. First hypothesis is that tax avoidance is negatively associated with the cost of debt. In the turn, second hypothesis is that the relationship between corporate tax avoidance and the cost of debt is moderated by the level of institutional ownership.

The research framework comprises seven variables. Dependent variable is the cost of debt, while corporate tax avoidance and institutional ownership are independent variables, and four control variables, such as firm age, leverage, firm size, and cash flow from operation. All variables are directly achievable from the data stream and annual reports of firms, excluding tax avoidance. So, in this study book – tax difference (BTD) is used as a proxy for corporate tax avoidance which is developed by Manzon and Plesko (2002) and followed by Desai and Dharmapala (2006, 2009). Due to its nature, tax avoidance is extremely difficult to measure (Desai and Dharmapala, 2006, 2009). Constructing the measure of corporate tax avoidance takes two sub-measurements, such as book-tax difference (BTD) and total accruals (TA). So as to BTD cannot necessarily reflect corporate tax avoidance itself (Desai and Dharmapala, 2006, 2009), total accruals are used for controlling other factors e.g. earning management. Since book – tax difference is the difference between financial income e.g. income reported to capital markets and taxable income e.g. income reported to tax authorities (Desai and Dharmapala, 2006, 2009), estimated taxable income is used due to the unavailability of taxable income from financial statements of Malaysian listed companies.

All data are collected from Thomson Reuters Data Stream and annual reports of the firms. Then, the data is cleaned up from bias – generating parts of data, such as financial and insurance companies, the firms without relevant data, and with negative tax expense, the firms which ended year with loss, and non – December year – end firms. Initial sample was 4310 firm – year observations, then, after sorting and checking for outlier process, the final sample consists of 540 firm – year observations, representing eleven industry spheres.

Two research models are constructed to test two hypotheses of this study. Research models are constructed by following the studies of Desai et al. (2009) and Lim (2011). All analysis procedures e.g. descriptive statistics of variables, univariate and multivariate analysis, multicollinearity and normality test are conducted by using Stata 8.2 Statistical Software.

5.1 Research Findings and Implications

Graham (2004) found that tax shelters serve as a substitute for interest deductions in determining the capital structure. According to the Lim (2011), corporate tax avoidance is negatively associated with the cost of debt. This study supports prior papers with negative relationship between tax avoidance and the cost of debt, suggesting corporate tax avoidance activity can reduce the cost of debt of the firms. The multivariate analysis indicates that higher tax avoidance activities reduce the interest rates of firms by 0.2 percent, on average. In other words, the tax savings gained through tax avoidance activity can be used to capitalize company's projects without bearing debt. This result suggests that tax – favoured effect of corporate tax avoidance can serve as a debt for firms; hence tax avoidance serves as a substitute for the use of debt, which is consistent with trade – off theory, and with Graham and Tucker (2006) and Lim (2011). This finding supports the first hypothesis of the study as portrayed in Table 5.1.

Table 5.1: Summary of the Results

	Hypotheses	Results
H1:	Tax avoidance is negatively associated with the cost of debt.	Supported
H2:	The relationship between corporate tax avoidance and the cost of debt is moderated by the level of institutional ownership.	Not supported

The second hypothesis of this study, the relationship between corporate tax avoidance and the cost of debt is moderated by the level of institutional ownership, is not supported. The level of institutional ownership is included into Model II as to investigate its effect on the relationship between tax avoidance and the cost of debt. The analysis result shows that there is no significant effect of institutional ownership on this relationship. It means that the level of institutional ownership does not impact on the relationship between tax avoidance and the cost of debt, regardless the level institutional ownership is high or low, which is inconsistent with Lim (2011).

From the result it can be inferred that institutional investors of the sample Malaysian firms do not provide enough scrutiny to which managerial actions on firms` performance are subjected. Moreover, institutional investors do not pay attention on importancy of the conflict of interests between and management and debtholders, whereas institutional investors could reduce the cost of debt by alleviating agency problems, thereby decreasing opportunities for the managerial rent diversion of tax avoidance (Lim, 2011).

In sum, the first hypothesis of this study is supported, and the second one is not supported as described in Table 5.1. The evidence reported in Table 4.5 suggests that both corporate tax avoidance and the level of institutional ownership affect cost of debt of firms individually, but institutional ownership does not influence on the relationship between tax avoidance and the cost of debt. The primary finding is that corporate tax avoidance can serve as debt – substitute tool for the Malaysian listed firms for year 2005 – 2009.

5.2 Limitation of the Study

The main limitations of this study are associated with estimating taxable income. Since the taxable income is directly not available, it should be estimated using financial statement data (Manzon and Plesko, 2002). According to Manzon and Plesko (2002), several factors may affect on validity of the estimated taxable income. First factor is the difference in reporting entity. Financial accounting standards generally require consolidation of all firms in which the parent has more than 50 percent ownership. For tax reporting, consolidation is voluntary and cannot occur unless there is 80 percent ownership.

Second one is operating losses. The firms which generating a taxable loss in one year could carry that loss back to offset taxable income in the three previous years or forward to offset taxable income earned in the subsequent fifteen years.

Third factor is nonqualified stock option compensations. While firms can deduct employee compensation related to nonqualified stock options in determining taxable income, this deduction does not reduce current tax expense. Rather, it is reflected as a reduction in current tax liability. Consequently, the magnitude of overestimation is not a proxy for tax sheltering activity, while corporate taxable income is systematically overestimated when companies compensate employees using nonqualified stock options.

Yet, despite these factors, according to Manzon and Plesko (2002) and Desai and Dharmapala (2009) book – tax difference is more reliable and relevant proxy measure for tax avoidance. Particularly, in this study, all firms with operating losses are deleted from the sample as to enhance robustness of the estimation.

5.3 Contribution of the Study and Recommendation for Future Research

The evidence from this study can be valuable contribution to a growing line of research on corporate tax avoidance and institutional ownership. Particularly, to my best knowledge, in context of Malaysia only study is conducted on tax avoidance, and there is no study on the relations among corporate tax avoidance, cost of debt, and institutional ownership. Furthermore, this study has policy implication i.e. debtholders view institutional investors that decreases opportunism for the managerial rent diversion given the increasing active role of

institutional investors at an early stage in an emerging market (Lim, 2011). Also, another implication for policymakers is that the findings could be useful for policymakers in designing future tax systems and accounting standards to narrow the gap between financial and taxable income.

As known that any research not conclusive, there are several issues on corporate tax avoidance in context of Malaysia which should be investigated through future researches. For example, future research should investigate the effect of tax avoidance on stock price in both firm level and corporate level. Furthermore, future research could concentrate on the relationship among corporate tax avoidance, institutional ownership, and corporate transparency. These studies are crucial to broadly understand the consequences corporate tax avoidance.

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