ISSN 2409-2665
Journal of Logistics, Informatics and Service Science
Vol. 11 (2024) No. 8, pp. 214-229
DOI:10.33168/JLISS.2024.0813

The Impact of Tax Avoidance on Cost of Debt: The Moderating Role of Ownership Structure in Vietnamese Listed Companies From 2010 To 2021

Do Phuong Thao[1], Le Thi Thanh Binh[2], Nguyen Minh Phuc[3], Huynh Anh Tuan[1]

[1]Faculty of Management and Economics, Tomas Bata University in Zlín, Czech Republic
[2]Faculty of Finance and Banking, Ton Duc Thang University, Vietnam
[3]Faculty of Finance and Banking, University of Finance - Marketing, Vietnam
lethithanhbinh@tdtu.edu.vn (Corresponding author)

Abstract: This study investigates the effect of tax avoidance behavior on the cost of debt among listed companies in Vietnam from 2010 to 2021. Using a sample of non-financial enterprises, the authors examine the direct relationship between tax avoidance and cost of debt, as well as the moderating role of institutional and managerial ownership. The findings suggest that tax avoidance behavior increases the cost of debt, and this effect is more pronounced among enterprises with low institutional and managerial ownership. The study highlights the potential trade-offs between the benefits and risks of tax avoidance and the importance of ownership structure in mitigating agency problems. The findings contribute to the literature on tax avoidance and cost of debt in emerging markets and have practical implications for policymakers and corporate decision-makers in Vietnam.

Keywords: Tax avoidance, cost of debt, ownership.

1. Introduction

Corporate income tax is considered as an essential source of funding in the national budget for socio-economic development (Cobham, 2005). Corporates usually tend to reduce tax amounts through several ways such as taking advantage of tax incentives, deductible expenses to optimize costs. In terms of the State and the authorities, these acts cause serious loss of revenue to the State budget (Harelimana, 2018). Normally, companies taking advantage of deductions, incentives, tax exemptions and reductions implement "transfer pricing" transactions or use appropriate accounting methods in order to reduce their tax payables (Frank et al., 2009). From that, in order to avoid tax, firms often apply a variety of measures which are difficult to clearly distinguish whether that vehicle is considered legal or not. This leads to numerous confusions between tax planning based on “loopholes” in the tax law and tax evasion which is illegal (Graham and Tucker, 2006). Nevertheless, it is necessary for corporates’ executives to carefully consider the benefits and risks when implementing tax avoidance. Tax avoidance can be used as an alternative to using debt in firms, according to Graham and Tucker (2006) and Lim (2010, 2011). This can increase financial reliability, strengthen credit quality, reduce default risk, reduce expected bankruptcy costs and thus reduce debt costs (Lim 2011; Masri & Martani, 2014). The cost of debt is an effective ratio assessing what a company must pay on its debts. On the contrary, the more tax avoidance is applied, the more influential the information environment is. This increases the implicit agency costs that enterprises have to bear, causing damage to the enterprises’ value or affecting the reputation of the enterprises (Wang, 2010; Hoopes et al., 2012).

Tax avoidance is also a concentrated topic in many current research studies in Vietnam. Nguyen and Phan (2017) investigated the relationship between tax avoidance behavior and state ownership level at corporations in Vietnam. This study concluded that lower state ownership and tax avoidance behavior have a positive effect. In the 2021 study, Dang and Tran researched the empirical evidence about the influence of financial distress on tax avoidance within 369 listed companies in Vietnam from 2008 to 2020. The result shows a positive relationship between the level of financial risk and engaging in tax avoidance. In a study by Nguyen et al. (2022), the researchers aimed to examine the impact of tax avoidance and institutional ownership on corporate borrowing policies. The study used data from 207 companies listed on the Ho Chi Minh City Stock Exchange (HOSE) in Vietnam from 2008 to 2016. However, the findings did not provide empirical support for a correlation between a company's cost of debt and tax avoidance as well as the effect of ownership structure on this linkage. Although many studies have investigated the relationship between tax avoidance and various impacts, few research papers in Vietnam demonstrate whether tax avoidance reduces the cost of debt. Therefore, the existing gap in research is the relationship between tax avoidance and the cost of debt. In particular, the authors desire to focus on the effect of tax avoidance on the cost of debt and also the effect of ownership structure on the linkage between tax avoidance behavior and the cost of debt.

2. Theoretical Overview and Research Hypothesis Development

2.1. Asymmetric information theory

The asymmetric information theory proposed by Jensen and Meckling (1976) is widely applied in capital adequacy studies. The theory argues for an information imbalance between one party having more complete information than the other when making a transaction. Firstly, when there is information asymmetry between enterprises and creditors, creditors usually tend to employ their information disadvantage in the cost of debt when providing capital to enterprises (Jensen and Meckling, 1976; Myers and Majluf, 1984). Therefore, when economic policy uncertainty occurs, this information asymmetry becomes more severe, leading to the possibility of creditors increasing the cost of debt (Zhang et al., 2016). Secondly, the high uncertainty in economic policy is detrimental to the enterprises’ investment and leads to high volatility in the future cash flows of the enterprise. This makes their default risk higher and thus creditors will tend to increase the cost of debt. Economic policy uncertainty is

positively related to the cost of debt through two main mechanisms: information asymmetry (Stiglitz and Weiss, 1981) and default risk (Black and Scholes, 1973). Furthermore, tax avoidance leads to a lack of transparency in the information environment, which increases agency costs and affects the interests of creditors as well as the reputation of enterprises in the market (Armstrong et al., 2015).

2.2. Trade-off theory

The trade-off theory (Myers and Majluf, 1984) shows the highest efficiency in the case that the corporates face financial distress. At that time, shareholders often convert risk to high-risk projects, which are borrowed by creditors. However, creditors need to analyze financial statements to make a decision to lend or buy bonds. The riskier the project is, the higher the cost of debt is. Moreover, creditors may give strict terms in loan contracts which increase the cost of using debt of enterprises (Armstrong et al., 2015). According to this theory, however, as the firm increases the amount of debt, it will benefit more thanks to the tax shield which increases the value of the levered firm. Nonetheless, expanding the amount of debt makes the risks and costs of financing higher, which reduces the benefit of the tax savings from interest (Masri and Martani, 2014). It is clear that tax avoidance can bring many benefits, but there are still negative effects on the reputation of enterprises. Therefore, the board of management needs to evaluate the trade-off between the benefits and the risks when applying tax avoidance. If the benefits outweigh the costs, the board of management is able to implement tax strategies. In addition, creditors will tend to set a high debt cost for enterprises equivalent to the risk.

2.3. Research hypothesis development

2.3.1. Effect of tax avoidance on the cost of debt

When companies avoid taxes, they tend to manipulate financial information, creating asymmetric information problems in the relationship between businesses and lenders and many other relationships (Beck et al., 2014). When information asymmetry occurs, financial institutions such as banks, lacking information about the financial situation of borrowers like firms, will carefully consider lending decisions. Accordingly, firms are likely to be subject to strict terms in loan contracts and have to pay higher interest expenses than normal situations. Implementing tax avoidance will reduce transparency in accounting and financial reporting quality and decrease firms' value which can affect the lending decisions from banks when these financial institutions perceive high risks in the firms' operating situation (Chen et al., 2011; Armstrong et al., 2015).

In addition, tax avoidance involves performing many complex transactions to hide the transactions' essence which may cause the firms to face several challenges including explicit and implicit costs such as tax penalties, litigation costs (Hanlon and Slemrod, 2009; Wilson, 2009; Graham and Associates, 2014; Hasan and Associates, 2014). When banks realize a decline in firms' credit quality owing to high risks, they will increase loans' interest rates which will rise the cost of using debt for corporations. Therefore, the authors propose hypothesis H1 as follows:

Hypothesis H1: Tax avoidance behavior has a positive relationship with the cost of debt

2.3.2. The effect of ownership structure on the relationship between tax avoidance behavior and the cost of debt

Desai et al. (2007) found that corporate tax avoidance and management behavior are closely related to each other. When implementing tax avoidance, management often manipulates financial information through complicating transactions to hide transactions' essence (Desai and Dharmapala, 2006; Dyreng et al., 2009). According to agency theory, there is a separation between owners and management in corporations, which prevents the owners from thoroughly understanding the true performance of the companies and monitoring management's behavior. Meanwhile, the board of management may seek personal benefits through manipulation of financial information. Bird and Karolyi (2017) have results

that agree with the above view, showing that the quality of ownership structure has a significant impact on tax avoidance in businesses. In particular, the institutional ownership and management ownership can affect the behavior of the board of management and then affect the linkage between tax avoidance and cost of debt of the corporations.

First, regarding the quality of shareholder activism, the measure used to evaluate the quality of shareholder activism is institutional ownership (Desai et al., 2007). Bebchuk (2007); Jiang et al. (2020) argue that an increase in institutional ownership is more likely to strengthen the ability of monitoring management activities, thereby helping improve the problem of asymmetry between owners and management. In addition, when the board of directors' control mechanism is effective, the information published in financial reports is transparent and accurate, which enhance the trust of lenders or investors when making investment decisions or financing decisions for the firms (Ajinkya et al., 2005; Karamanou and Vafeas, 2005).

Therefore, for businesses with a low percentage of institutional shareholders, shareholders lack the motivation to participate in strengthening control mechanisms or monitoring management activities. This facilitates the board of management to carry out complex transactions and manipulate financial information for personal gain (Hartzell and Starks, 2003; Desai and Dharmapala, 2009). At this time, the quality of information in the business environment will lack transparency, leading to the quality of financial statements not being trusted by lending organizations and investors which makes the banks offer strict interest rates and strict terms in loan contracts (Amstrong et al., 2015). From the above arguments, the authors propose hypothesis H2a:

Hypothesis H2a: Organizational ownership limits the relationship between avoidance behavior and taxes and the cost of debt.

Based on agency theory, there is a conflict of interest between the owners and the board of directors in corporations because the owner's goal is to maximize corporations' profits, while the managers' goal is to maximize their personal benefits (Jensen and Meckling (1976). If the board of managers hold a large amount of shares in corporations, they are also the owners and then share the same goal with shareholders of maximizing corporate value (Mulyadi and Anwar, 2015). This makes them more cautious when deciding on policies relating to the firms' value. In reverse, if the boards of management hold a few shares, they do not have a harmony of interests, and have no incentive to realize the shareholder's goal of maximizing public profits. Therefore, management tends to carry out complex transactions to manipulate financial information for personal gain (Hanlon and Heitzman, 2010). This causes the quality of information in businesses to lack transparency, creating information asymmetry between companies and lending institutions. Therefore, when companies mobilize capital, they face strict terms and high interest costs which surges the cost of debt (Amstrong et al., 2015). Therefore, the authors propose hypothesis H2b as follows:

Hypothesis H2b: Management ownership limits the relationship between tax avoidance behavior and the firm's cost of debt.

3. Data and Research Methodology

3.1. Data

The authors conduct research with a data sample including non-financial enterprises listed on the two stock exchanges HOSE and HNX during the observation period from 2010-2021. The author eliminates businesses in the finance, banking, investment fund, and insurance industries due to the difference in the regulations on accounting standards as well as the way of recording information on the financial statements. This may affect the data sample causing research results to be biased. After removing observations that lack information and handles unusual values (outliner), the final data set includes 5,279 observations from non-financial enterprises listed on two stock exchanges.

3.2. Research models

According to the proposed hypothesis H1 about the impact of tax avoidance behavior on the cost of debt, the authors build a research model based on the study of Lim et al (2011). The research model proposed by the authors is as follows:

$$RD_{it} = \beta_1 + \beta_2 TA_{it} + \sum_{n=1}^{m} Controls_{nit} + \gamma_t + \delta_i + \varepsilon_{it} \quad (3.1)$$

In which: Dependent variable RD_{it} represents the cost of debt of firm i in year t. Variable TA_{it} is the tax avoidance behavior measured by the effective tax rate (ETR) of firm i in year t and the cash effective tax rate (CETR) of firm i in year t. $Controls_{n,it}$ is a combination of control variables that can affect the cost of debt of the firms.

Control variables include: Financial leverage (***LEV***), business operation time ***(AGE),*** return on assets (***ROA),*** cash flow from operating activities (***CF),*** debt maturity ***(MTY),*** market-to-book ratio ***(MB)*** and cash holding ratio (***CASH).*** Model has year fixed effect **(γ_t)** and industry fixed effect (δ_i).

There are many measurements of tax avoidance. Book-tax differences (BTD) is one of the methods. Wilson (2009) finds that BTD are larger for firms accused of engaging in tax shelters than for a matched sample of non-accused firms. These studies suggest that BTD may capture corporate tax avoidance behavior. However, BTD can be affected by earnings management, tax laws, differences in accounting standards, and other factors, making BTD a potentially noisy measure of corporate tax avoidance. Desai and Dharmapala (2006) suggest that BTD may not only indicate tax avoidance behavior but may also involve earnings management. In addition, the corporation's effective tax rate (ETR) is a common indicator of a firm's tax burden. Differences between the ETR and the statutory rate can arise due to variations in how income is measured under financial reporting standards and taxation rules. Some differences are temporary, while others are permanent. These variations can result in differences between ETR and statutory tax rates. There are two common measures of ETR: the GAAP ETR and cash ETR. GAAP ETR is computed as total income tax expense divided by pre-tax accounting income, with both measures available on the income statement (Rego, 2003; Hanlon & Heitzman, 2010). The Cash Effective Tax Rate (ETR) is calculated using cash taxes paid as the numerator rather than income tax expense. It is important to note that tax expenses and taxes paid will differ due to temporary differences, which may arise from variations in the timing of recognising income, expenses, and tax deductions for financial reporting versus tax purposes. The difference between recognising revenue and expenses in accounting and tax law is huge in Vietnam. According to Circular No 78/2014 and Circular No 96/2015, there are 38 non-deductible expenses and many different rules for recording revenue for tax purposes. The differences between tax and accounting create a lot of temporary differences and permanent differences. Therefore, the authors choose the three measurements to examine the level of tax avoidance to measure both of temporary differences and permanent differences.

The hypothesis H2 tests that the ownership structure restricts the relationship between tax avoidance behavior and the cost of debt. Based on the study Desai and Dharmapala (2009), the sample is divided into 2 groups: the group which has the value of the organizational ownership variable greater than the median value is the high organizational ownership (***HIGH_ORG***), and vice versa is the group with low organizational ownership (***LOW_ ORG).*** Similarly, according to the measure of the board of management's ownership, the sample is divided into 2 groups: the group which has the value of the management ownership variable greater than the median value is the high ownership of board of management (***HIGH_MNG***), and vice versa is the group with low ownership of board of management (***LOW_MNG).*** The organizational ownership variable is measured based on the proportion of number of shares held by organizations to the company's total number of shares outstanding. Likewise, the management ownership variable is the percentage of number of shares owned by the board of management on the total number of shares outstanding. Finally, the authors regress equation (3.1) for each group of ownership levels and then compares the regression coefficients of the groups with each other.

To test for the stability in the model, the other measurement, book tax differences (BTD) which is the differences between pre-tax book income and taxable income.

Table 3.1: Variables description

Definition	Notation	Measurement	Expectation
A. Explanatory variables			
Effective tax rate	ETR	$\text{ETR}_{it} = \frac{\text{Tax expense}_{it}}{\text{Earning before tax}_{it}}$	+
Cash effective tax rate	CETR	$\text{CETR}_{it} = \frac{\text{Cash tax paid}_{it}}{\text{Earning before tax}_{it}}$	+
Book tax difference	BTD	Pretax book income – Taxable income	+
B. Dependent variables			
Cost of debt is calculated by dividing interest payment on average of current and non-current liabilities	RD	$\text{RD}_{it} = \frac{\text{Interest expense}_{it}}{\text{Short-term debt}_{it}+\text{Long-term debt}_{it}}$	
C. Control variables			
Financial Leverage	LEV	$\frac{\text{Long} - \text{term liabilties}}{\text{Total asset}}$	+
Business operation time	AGE	Natural logarit of difference between year of observation and year of establishment	-
Cash flow	CF	$\frac{\text{Operating cash flow}}{\text{Total asset}}$	+/-
Return on asset	ROA	$\frac{\text{EBT}}{\text{Total asset}}$	-
Market value to book value	MB	Market value/ Boook value	-
Maturity of debt	MTY	$\frac{\text{Long} - \text{term liabilties}}{\text{Total liabilities}}$	+
Cash ratio	CASH	$\frac{\text{Cash and cash equivalent}}{\text{Total asset}}$	-

Source: authors summarize

3.3. Estimation and testing methods

Based on previous studies related to the relationship between tax avoidance behavior and the cost of debt (Lim et al., 2011; Hasan et al., 2014), The authors use panel data and use least squares (OLS) regression model because this is the method used in many research articles on the correlation between

tax avoidance behavior and the cost of using debt of businesses and in accordance with the availability of data in the Vietnamese market. This model also has specific limitations: the Pooled-OLS model assumes that the regression coefficients in the model are the same for all observations, so if the regression model appears correlation, it is likely that the estimates in the model may produce biased regression results. The writer controls year and industry fixed effects in the research model, and combines Robust estimation to overcome the phenomenon of heteroskedasticity. Besides, to overcome existing limitations, the authors also perform estimation with fixed effects model (FEM) and random effects model (REM). While FEM argues that each enterprise has characteristics that do not change over time and have the ability to influence the dependent variable, the variation between units in REM is considered random and affects the explanatory variables.

Finally, the authors conduct different model testing methods to ensure the results are not biased by checking whether the model has multicollinearity based on the Pearson correlation matrix, Wooldridge test to check for autocorrelation, and finally Breusch – Pagan test to consider if the model has heteroscedasticity in the model. The regression is run on STATA software.

4. Research Results and Discussion

4.1. Descriptive statistics results

Table 4.1 Descriptive statistics

VARIABLES	Observation	Mean	Standard deviation	Min	Max
Dependent variable					
RD	5,279	0.030	0.029	0.000	0.500
Explanatory variables					
ETR	5,279	-0.199	0.110	-0.980	0.000
CETR	5,279	-0.176	0.152	-0.997	0.000
BTD	5,279	0.014	0.041	-0.201	0.610
Moderator variables					
ORG	5,279	0.250	0.251	0.000	0.997
MNG	5,279	0.056	0.109	0.000	0.802
Control variables					
LEV	5,279	0.477	0.220	0.003	0.992
AGE	5,279	2.392	0.470	0.000	3.871
ROA	5,279	0.072	0.069	0.000	0.784
CF	5,279	0.064	0.134	-0.696	0.979
MTY	5,279	0.163	0.218	0.000	0.969
MB	5,279	1.200	1.043	0.097	18.113
CASH	5,279	0.058	0.086	0.000	0.727

Source: authors summarize

Table 4.1 shows that the average cost of debt is 0.030 which indicates that the average cost of debt in each corporate per year is 3% while the mean percentage of total debt in capital structure is 47.7%.

The mean values of ETR and CETR variables are both lower than the Vietnam standard corporate income tax rate which is equal to 20% for most businesses which may exist the opportunity for tax avoidance according to the research of Hanlon and Heitzman (2010). The descriptive results of organizational ownership variable show that there is a relatively large differences in firms' ownership structure because the sample varies from 0% to 99.7%. This is similar to the management ownership structure with the range from 0% to 80.2%.

4.2. Correlation analysis

Table 4.2: Correlation matrix of the impact of tax avoidance behavior on the firm's cost of debt

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
(1) RD	1.000										
(2) ETR	0.029	1.000									
(3) CETR	0.062	0.384	1.000								
(4) BTD	0.010	0.520	0.300	1.000							
(5) LEV	0.232	-0.166	-0.086	-0.243	1.000						
(6) AGE	-0.138	0.019	-0.071	-0.091	-0.073	1.000					
(7) ROA	-0.205	0.215	0.139	0.521	-0.478	-0.033	1.000				
(8) CF	-0.001	0.071	0.036	0.205	-0.223	0.004	0.435	1.000			
(9) MTY	0.223	0.086	0.040	0.038	0.166	-0.051	-0.129	0.034	1.000		
(10) MB	-0.170	0.091	0.026	0.176	-0.135	0.091	0.477	0.201	-0.011	1.000	
(11) CASH	-0.153	-0.008	-0.044	-0.039	-0.118	0.018	0.179	0.122	-0.223	0.170	1.000

Source: authors summarize

Based on the Pearson correlation matrix, it can be seen that the three explanatory variables ETR, CETR and BTD in the model are positively correlated with the dependent variable RD. Therefore, the authors expect that the regression results with these two variables are similar. The correlation coefficient between the independent variables in the model is less than 0.7. Therefore, the authors argue that it is the relative possibility of the research model having multicollinearity.

4.3. Regression results

4.3.1. Impact of tax avoidance on the cost of debt

Table 4.3 Table of estimation and testing results of the impact of tax avoidance on the cost of debt

VARIABLES	OLS	FEM	REM	OLS	FEM	REM
	(1)	(2)	(3)	(4)	(5)	(6)
ETR				0.0171***	0.0061	0.0080*
				(0.0038)	*(0.0043)*	*(0.0042)*
CETR	0.0123***	0.0025	0.0041*			
	(0.0026)	*(0.0023)*	*(0.0023)*			
LEV	0.0193***	-0.0133**	0.0015	0.0199***	-0.0131**	0.0018
	(0.0021)	*(0.0065)*	*(0.0042)*	*(0.0021)*	*(0.0065)*	*(0.0043)*
AGE	-0.0005	-0.0046	-0.0032	-0.0007	-0.0045	-0.0032
	(0.0012)	*(0.0050)*	*(0.0024)*	*(0.0012)*	*(0.0050)*	*(0.0024)*
ROA	-0.0626***	-0.0516***	-0.0552***	-0.0640***	-0.0522***	-0.0558***
	(0.0089)	*(0.0122)*	*(0.0108)*	*(0.0091)*	*(0.0121)*	*(0.0108)*
CF	0.0230***	0.0199***	0.0205***	0.0233***	0.0202***	0.0207***
	(0.0048)	*(0.0045)*	*(0.0045)*	*(0.0048)*	*(0.0046)*	*(0.0045)*
MTY	0.0212***	0.0206***	0.0196***	0.0206***	0.0204***	0.0193***
	(0.0020)	*(0.0045)*	*(0.0035)*	*(0.0020)*	*(0.0045)*	*(0.0035)*
MB	-0.0018***	-0.0012*	-0.0015***	-0.0018***	-0.0013*	-0.0015***
	(0.0004)	*(0.0006)*	*(0.0005)*	*(0.0004)*	*(0.0006)*	*(0.0005)*
CASH	-0.0367***	-0.0121	-0.0249***	-0.0375***	-0.0123	-0.0251***
	(0.0038)	*(0.0126)*	*(0.0080)*	*(0.0038)*	*(0.0125)*	*(0.0080)*
Intercept	0.0293***	0.0488***	0.0412***	0.0312***	0.0495***	0.0422***
	(0.0031)	*(0.0099)*	*(0.0052)*	*(0.0031)*	*(0.0100)*	*(0.0053)*
Observation	5,279	5,279	5,279	5,279	5,279	5,279
R^2	0.1917	0.1274		0.1915	0.1278	
Industry fixed effect	Yes	Yes	Yes	Yes	Yes	Yes
Year fixed effect	Yes	Yes	Yes	Yes	Yes	Yes

Source: authors summarize

From the regression results in Table 4.3, the regression coefficients of ETR and CETR are both greater than 0 and are statistically significant at 1%, which is 0.0171 and 0.0123, respectively. This

shows that the corporates practice more tax avoidance, the cost of debt will be higher. The result is as expected to hypothesis H1.

Besides the factor of tax avoidance, there are financial factors that affect the corporates' cost of debt. In a model using the variables CETR and ETR, the financial leverage regression coefficient (LEV) is 0.193 and 0.199, both statistically significant at the 1% level, suggesting that increased leverage leads to higher financial distress. The cash flow control (CF) has statistically significant coefficients at the 1% level, indicating a positive association with the cost of debt. Positive cash flow does not necessarily imply overall profitability. In cases where a company is making losses but still generating positive cash flow, selling assets to meet financial obligations or accumulating undue expenses can result in creditors giving the operations a higher valuation of the company's performance and, therefore, the cost of debt is higher. Similar to the financial leverage, the debt maturity variable (MTY) has a positive regression coefficient of 0.0212, showing that businesses manage debt costs better with a higher debt maturity.

Return on assets (ROA) has a regression coefficient of - 0.0626 with a statistical significance level of 1% This shows that the firm with higher ROA value can manage assets effectively and generates higher profit, thus reducing the cost of debt.

The business operation time variable (AGE) is not statistically significant in the model.

The variable of cash holding ratio (CASH) has regression coefficient of -0.0367 and statistical significance of 1% indicating that firms with high cash holding ratio represents a security for debt solvency of the firm and it is highly appreciated by creditors who will offer low lending rates, thereby reducing the cost of debt of the enterprise. The market value to book value variable (MB) with the regression coefficient of -0.0018, with the 1% statistical significance level, are in line with the authors' initial expectation. When this ratio is higher, the company will have higher growth opportunities, showing that the company is able to generate profit and to pay back the loan on time. As a result, it is highly appreciated by investors and lending institutions who are willing to offer low interest for these companies.

The regression results imply that most of Vietnamese firms believe that tax avoidance will bring some benefits. Nevertheless, tax avoidance behavior in practice increases risks for firms and finally increase the debt costs.

4.3.2. Effect of tax avoidance on the cost of debt

Table 4.4. Results of estimation and testing the effect of ownership structure on the relationship between tax avoidance behavior and the cost of debt

VARIABLES	ORG				MNG			
	Low ORG	High ORG	Low ORG	High ORG	Low MNG	High MNG	Low MNG	High MNG
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
ETR			0.0273***	0.0032			0.0195***	0.0139***
			(0.0049)	*(0.0057)*			*(0.0054)*	*(0.0053)*
CETR	0.0130***	0.0109***			0.0144***	0.0097***		
	(0.0036)	*(0.0039)*			*(0.0038)*	*(0.0036)*		
LEV	0.0202***	0.0185***	0.0211***	0.0185***	0.0195***	0.0196***	0.0195***	0.0205***
	(0.0031)	*(0.0029)*	*(0.0031)*	*(0.0029)*	*(0.0033)*	*(0.0027)*	*(0.0033)*	*(0.0028)*
AGE	0.0036**	-0.0048***	0.0034*	-0.0049***	0.0033*	-0.0052***	0.0032*	-0.0054***
	(0.0018)	*(0.0016)*	*(0.0017)*	*(0.0016)*	*(0.0018)*	*(0.0015)*	*(0.0018)*	*(0.0015)*
ROA	-0.0658***	-0.0588***	-0.0718***	-0.0561***	-0.0647***	-0.0626***	-0.0665***	-0.0638***
	(0.0118)	*(0.0137)*	*(0.0123)*	*(0.0137)*	*(0.0106)*	*(0.0157)*	*(0.0106)*	*(0.0161)*
CF	0.0255***	0.0207***	0.0265***	0.0204***	0.0319***	0.0148**	0.0317***	0.0154**
	(0.0070)	*(0.0067)*	*(0.0070)*	*(0.0067)*	*(0.0070)*	*(0.0062)*	*(0.0071)*	*(0.0063)*
MTY	0.0191***	0.0235***	0.0175***	0.0239***	0.0241***	0.0179***	0.0235***	0.0175***
	(0.0029)	*(0.0027)*	*(0.0029)*	*(0.0027)*	*(0.0027)*	*(0.0030)*	*(0.0027)*	*(0.00$31)*
MB	-0.0020***	-0.0016***	-0.0020***	-0.0016***	-0.0015***	-0.0020***	-0.0016***	-0.0020***
	(0.0005)	*(0.0006)*	*(0.0005)*	*(0.0006)*	*(0.0005)*	*(0.0006)*	*(0.0005)*	*(0.0006)*
CASH	-0.0360***	-0.0342***	-0.0369***	-0.0348***	-0.0473***	-0.0257***	-0.0482***	-0.0262***
	(0.0079)	*(0.0043)*	*(0.0079)*	*(0.0043)*	*(0.0062)*	*(0.0045)*	*(0.0062)*	*(0.0045)*
Intercept	0.0220***	0.0360***	0.0264***	0.0347***	0.0198***	0.0407***	0.0222***	0.0421***
	(0.0043)	*(0.0044)*	*(0.0044)*	*(0.0045)*	*(0.0046)*	*(0.0039)*	*(0.0047)*	*(0.0040)*
Observation	2,637	2,636	2,637	2,636	2,638	2,637	2,638	2,637
R^2	0.1903	0.2032	0.1963	0.2002	0.2036	0.2058	0.2036	0.2057
Industry fixed effect	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year fixed effect	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Source: authors summarize

Regression results of Table 4.4 show that the variable ETR has a coefficient greater than 0 at a significant level of 1%. The regression coefficient 0.0273 of the group of enterprises with low organizational ownership (LOW_ORG) is larger than the regression coefficient 0.0032 of the group with high institutional ownership (HIGH_ORG). In addition, the explanatory variable CETR also has similar results. From the regression results, it is proven that in enterprises with low organizational ownership, the impact of tax avoidance on the cost of debt is more obvious. For the moderator variable the ownership of board of management, the regression results show that the main explanatory variable ETR has the regression coefficient greater than 0 at the significant level of 1% in both low ownership of board of management (LOW_MNG) and high ownership of board of management (HIGH_MNG). In which, the regression coefficient of 0.0195 of the group of enterprises with low management ownership is larger than that in the group with high management ownership (0.0139). Besides, the explanatory variable CETR also has the same results. This shows that the impact of tax avoidance on the cost of debt in enterprises with low management ownership is more obvious than in enterprises with high management ownership. The results are consistent with the hypothesis H2a, H2b.

In general, the regression results on the impact of ownership structure on the relationship between tax avoidance behavior and user costs are consistent with the corporate governance situation in Vietnam

when the average value of the board of managements in Vietnam is 0.056, which is quite low compared to some countries in the world. For example, the ownership ratio of the executive board in Indonesia is up to 48.96% (Fujianti, 2020), in Malaysia the value is 11.3% in the period 2007- 2009 (Hashim et al., 2016). Therefore, it can be seen that there exists a separation of ownership and control rights in businesses in Vietnam. This is consistent with the hypothesis related to the fact that managers may not focus on the goal of maximizing the business as well as make some decisions increasing the asymmetric information environment between inside and outside the business which rises the cost of using debt for firms.

4.4. Stability test

In addition to using two main measures for tax avoidance including ETR and CETR, to improve the robustness of the model, the authors use an alternative scale for tax avoidance behavior called book tax differences (BTD) used by Manzon and Plesko (2001).

Table 4.5: Stability test for the model about the impact of tax avoidance on the cost of debt

	(1)	**(2)**	**(3)**
VARIABLES	**OLS**	**FEM**	**REM**
BTD	0.0609***	0.0325	0.0417*
	(0.0159)	*(0.0245)*	*(0.0221)*
LEV	0.0192***	-0.0133**	0.0013
	(0.0021)	*(0.0065)*	*(0.0043)*
AGE	-0.0006	-0.0047	-0.0032
	(0.0012)	*(0.0050)*	*(0.0024)*
ROA	-0.0791***	-0.0634***	-0.0694***
	(0.0121)	*(0.0190)*	*(0.0166)*
CF	0.0233***	0.0199***	0.0205***
	(0.0048)	*(0.0045)*	*(0.0045)*
MTY	0.0207***	0.0203***	0.0192***
	(0.0020)	*(0.0045)*	*(0.0035)*
MB	-0.0017***	-0.0012*	-0.0014***
	(0.0004)	*(0.0006)*	*(0.0005)*
CASH	-0.0350***	-0.0109	-0.0229***
	(0.0039)	*(0.0126)*	*(0.0081)*
Intercept	0.0274***	0.0485***	0.0407***
	(0.0030)	*(0.0099)*	*(0.0053)*
Observation	5,279	5,279	5,279
R^2	0.1926	0.1286	
Industry fixed effect	Yes	Yes	Yes
Year fixed effect	Yes	Yes	Yes

Source: authors summarize

Table 4.6: Stability test for the model about the effect of ownership structure on the relationship between tax avoidance behavior and the cost of debt

VARIABLES	Low OWN	High OWN	Low MNG	High MNG
	(1)	(2)	(3)	(4)
BTD	0.0889***	0.0327	0.0917***	0.0198
	(0.0166)	*(0.0256)*	*(0.0148)*	*(0.0311)*
LEV	0.0199***	0.0185***	0.0189***	0.0197***
	(0.0031)	*(0.0029)*	*(0.0033)*	*(0.0028)*
AGE	0.0036**	-0.0049***	0.0033*	-0.0054***
	(0.0017)	*(0.0016)*	*(0.0018)*	*(0.0014)*
ROA	-0.0952***	-0.0649***	-0.0935***	-0.0652***
	(0.0147)	*(0.0188)*	*(0.0113)*	*(0.0230)*
CF	0.0265***	0.0204***	0.0327***	0.0147**
	(0.0070)	*(0.0067)*	*(0.0070)*	*(0.0063)*
MTY	0.0176***	0.0237***	0.0229***	0.0182***
	(0.0029)	*(0.0027)*	*(0.0027)*	*(0.0031)*
MB	-0.0017***	-0.0016***	-0.0013***	-0.0021***
	(0.0005)	*(0.0006)*	*(0.0005)*	*(0.0007)*
CASH	-0.0323***	-0.0334***	-0.0448***	-0.0254***
	(0.0078)	*(0.0044)*	*(0.0062)*	*(0.0048)*
Intercept	0.0205***	0.0338***	0.0177***	0.0392***
	(0.0043)	(0.0043)	(0.0045)	(0.0039)
Observation	2,637	2,636	2,638	2,637
R^2	0.1956	0.2016	0.2106	0.2035
Industry fixed effect	Yes	Yes	Yes	Yes
Year fixed effect	Yes	Yes	Yes	Yes

Source: authors summarize

The research results shown in Table 4.5 display that the regression coefficient of the independent variable BTD is statistically significant at 1% in the regression model showing that BTD is positively correlated with RD. This result reinforces hypothesis H1: **Tax avoidance behavior has a positive relationship with the cost of debt.**

According to the results in Table 4.6, most of the variables have statistical significance at 1% and the regression coefficients in robustness models are consistent with the results of the main regression model. However, unlike the two independent variables ETR and CETR which both variables have statistically significant results in both high organizational ownership and low organizational ownership, the BTD variable is only statistically significant at low organizational ownership. Specifically, the

coefficient of low organizational ownership variable is greater than 0 (0.0889) at a significant level of 1%. The low management ownership variable has a positive coefficient of 0.0917 at a significant level of 1%. These results support the hypothesis H2 that ownership structure reduces the relationship between tax avoidance behavior and the cost of debt, but it does not provide a detailed impact of high ownership structure as the ETR variable in the main regression model. This is also a limitation of the measure BTD of tax avoidance behavior.

5. Conclusion

In conclusion, this study provides new evidence on the relationship between tax avoidance and cost of debt among listed companies in Vietnam from 2010 to 2021. The findings suggest that tax avoidance behavior increases the cost of debt, particularly among enterprises with low institutional and managerial ownership. These results highlight the potential trade-offs between the benefits and risks of tax avoidance and the importance of ownership structure in mitigating agency problems and information asymmetry. The study contributes to the growing literature on tax avoidance and cost of debt in emerging markets and has practical implications for policymakers and corporate decision-makers in Vietnam. However, the study also has some limitations, such as the potential sample selection bias and endogeneity issues, which future research could address by using alternative sampling methods or identification strategies. Additionally, future studies could explore the role of other governance mechanisms or institutional factors in the relationship between tax avoidance and cost of debt, as well as the long-term consequences of tax avoidance on firm value and reputation. Despite these limitations, this study provides a valuable starting point for understanding the complex relationship between tax avoidance and cost of debt in the context of Vietnam and other emerging markets.

Acknowledgment

The authors are thankful to the Internal Grant Agency of FaME TBU in Zlín no. IGA/FaME/2022/006 - Investigation of the current economic topics in the Southeast Asia region for financial support to carry out this research.

References

Armstrong, C. S., Blouin, J. L., Jagolinzer, A. D., & Larcker, D. F. (2015). Corporate governance, incentives, and tax avoidance. *Journal of Accounting and Economics*, 60(1), 1-17.

Ajinkya, B., Bhojraj, S., & Sengupta, P. (2005). The association between outside directors, institutional investors and the properties of management earnings forecasts. *Journal of accounting research*, 43(3), 343-376.

Bebchuk, L. A. (2007). The myth of the shareholder franchise. Va. L. Rev., 93, 675.

Beck, T., Lin, C., & Ma, Y. . (2014). Why do firms evade taxes? The role of information sharing and financial sector outreach. *The Journal of Finance*, 69(2), 763-817.

Black, F., & Scholes, M. (1973). The pricing of options and corporate liabilities. *Journal of political economy*, 81(3), 637-654.

Cobham, A. (2005). Tax evasion, tax avoidance and development finance. Queen Elizabeth House Working, *University of Oxford*.

Ministry of Finance in Vietnam. *Circular No. 78/2014/TT-BTC*

Ministry of Finance in Vietnam. *Circular No. 96/2015/TT-BTC*

Dang, V. C., & Tran, X. H. (2021). The impact of financial distress on tax avoidance: An empirical analysis of the Vietnamese listed companies. *Cogent Business & Management*, 8(1), 1953678.

Desai, M. A., & Dharmapala, D. (2006). Corporate tax avoidance and high- powered incentives. *Journal of Financial Economics*, 79(1), 145-179.

Frank, M. M., Lynch, L. J., & Rego, S. O. (2009). Tax reporting aggressiveness and its relation to aggressive financial reporting. *The Accounting Review*, 84(2), 467-496.

Fujianti, L., & Satria, I. (2020). Firm size, profitability, leverage as determinants of audit report lag: Evidence from Indonesia. *International Journal of Financial Research*, 11(2), 61-67.

Graham, J. R., & Tucker, A. L. (2006). Tax shelters and corporate debt policy. *Journal of Financial Economics*, 81(3), 563-594.

Graham, J. R., Hanlon, M., Shevlin, T., & Shroff, N. (2013). Incentives for tax planning and avoidance: Evidence from the field. *The Accounting Review*, 89(3), 991-1023.

Ha, N. T. T., & Phan, G. Q. (2017). The relationship between state ownership and tax avoidance level: empirical evidence from Vietnamese firms. *Journal of Asian Business Strategy*, 7(1), 1.

Hanlon, M., & Heitzman, S. (2010). A review of Tax Research. *Journal of Accounting and Economics*, 50(2–3), 127–178.

Harelimana, Jean Bosco. (2018). The role of taxation on resilient economy and development of Rwanda. *J. Financ. Mark*, 2(01).

Hashim, H. A., & Amrah, M. (2016). Corporate governance mechanisms and cost of debt: Evidence of family and non-family firms in Oman. *Managerial Auditing Journal*, 31 (3), 314-336.

Hoopes, J. L., Mescall, D., & Pittman, J. A. (2012). Do IRS audits deter corporate tax avoidance? *The Accounting Review*, 87(5), 1603-1639.

Jensen, M. C., & Meckling, W. H. (1976). Theory of the firm: Managerial behavior, agency costs and ownership structure. *Journal of Financial Economics*, 3(4), 305-360.

Karamanou, I., & Vafeas, N. (2005). The association between corporate boards, audit committees, and management earnings forecasts: An empirical analysis. *Journal of Accounting Research*, 43(3), 453-486.

Lim, Y. (2011). Tax avoidance, cost of debt and shareholder activism: Evidence from Korea. *Journal of Banking & Finance*, 35(2), 456-470

Lim, Y.D., (2010). Tax Avoidance and Underleverage: Korean Evidence, Working Paper, *University of New South Wales*.

Manzon Jr, G. B., & Plesko, G. A. (2001). The relation between financial and tax reporting measures of income. *Tax L. Rev.,* 55, 175.

Masri, I., & Martani, D. (2014). Tax avoidance behaviour towards the cost of debt. *International Journal of Trade and Global Markets*, 7(3), 235-249.

Minh Ha, N., Phuong Trang, T. T., & Vuong, P. M. (2022). Relationship between tax avoidance and institutional ownership over business cost of debt. *Cogent Economics & Finance*, 10(1).

Myers, S. C., & Majluf, N. S. (1984). Corporate financing and investment decisions when firms have information that investors do not have. *Journal of Financial Economics*, 13(2), 187-221.

Plesko, G. A. (2004). Corporate tax avoidance and the properties of corporate earnings. *National Tax Journal*, 57(3), 729-737.

Rego, S.O. (2003) Tax-avoidance activities of U.S. multinational corporations. *Contemporary Accounting Research*. 20(4): 805-833.

Stiglitz, J. E., & Weiss, A. (1981). Credit rationing in markets with imperfect information. *The American economic review*, 71(3), 393-410.

Wang, X. (2010). Tax avoidance, corporate transparency, and firm value. *University of Texas.*

Wilson, R. J. (2009). An examination of corporate tax shelter participants. *The Accounting Review*, 84(3), 969-980.

Zhang, C., Cheong, K. C., & Rasiah, R. (2016). Corporate tax avoidance and performance: Evidence from China's listed companies. *Institutions and Economies*, 61-83.