The effect of tax avoidance on firm value in the SET

Mr. Jeff Dardouillet

จุฬาลงกรณ์มหาวิทยาลัย
CHULALONGKORN UNIVERSITY

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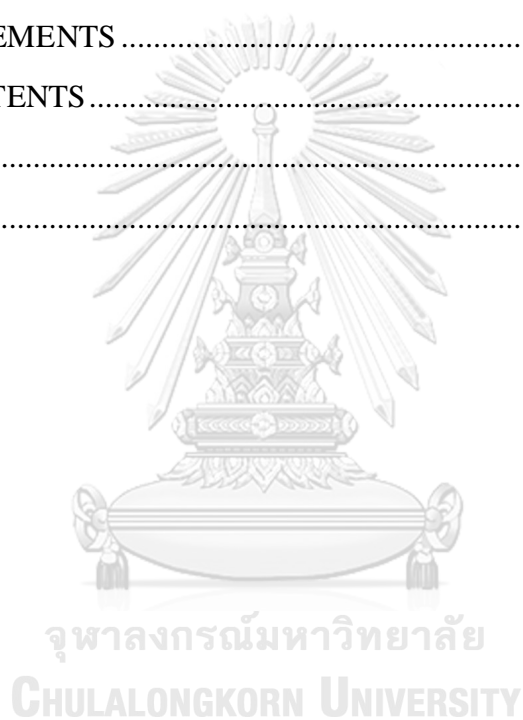
INTRODUCTION

Tax avoidance activities have been a growing concern for governments in the past 20 years. The emergence of new tax shelters and the increasing use of methods such as Transfer Pricing have given incentives for companies to find legal but hardly moral ways to reduce their tax expenses. As a response to this phenomenon, many countries have reacted by gradually changing their tax policy to appeal to local companies and multinationals and to maintain their presence on the territory.

Thailand is a fast-emerging country that which the potential to become one of the highest GDP in the Asian zones. In Thailand, the corporate income tax was set at 30 per cent of the pre-tax income until 2012, making it one of the countries with the highest tax policy in southeast Asia.

However, to attract foreign investors, the government has continuously decreased the corporate income tax to reach the 20 per cent threshold in 2014 (Figure 1). The change of the corporate policy in Thailand came with different other measures to contribute on the development of the companies in the country.

Figure (1) Corporate tax rate for each of the ASEAN country
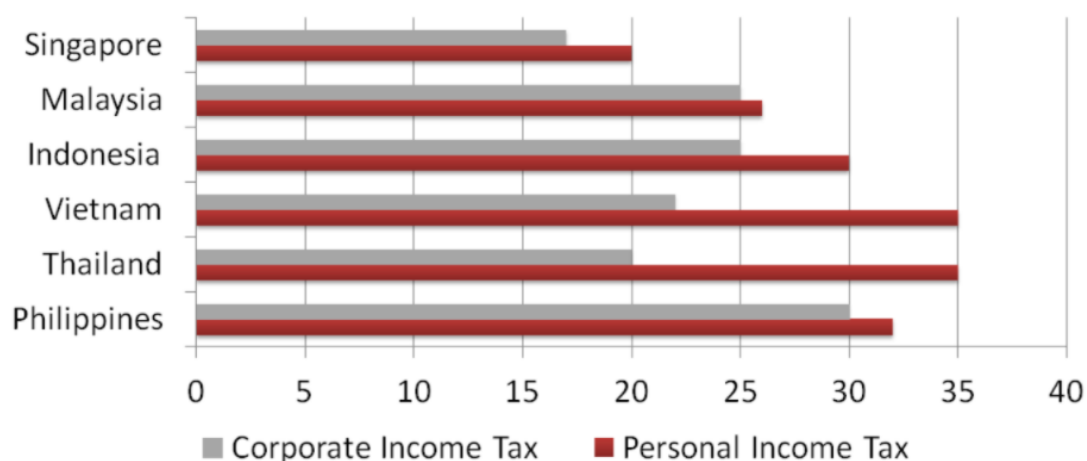
An example of incentive established in Thailand by the BOI to retain companies in its territory is related to R&D expenses. As per Royal Decree No 598 in 2016, a 200% tax deduction is granted to companies for R&D expenses incurring in its territory. Additionally, a 300% tax deduction was granted to companies hiring an Authorized R&D agency undertaking research, development, or innovation activities for the companies between January 2015 and December 2019.

Parallelly to measures reducing the burden of corporate tax income for the companies on its territory, Thailand also signed in June 2020, a multilateral convention on mutual administrative assistance in tax matters (Source: OECD). With not less than 137 jurisdictions involved, the purpose of this convention is to gather all documents and information necessary from any jurisdiction to assist in tax collection. The fact that Thailand joins such convention shows the efforts that the country has undergone to control all forms of tax avoidance and fight all types of tax evasion.

This dissertation analyzes the impact of moderators such as corporate governance and company structure on the relation between tax avoidance and firm values.

In the first part, I analyze the relationship between tax aggressiveness and corporate governance of firms in the stock exchange of Thailand, in two separate periods. This part will help answering to the first research question "How does a change in statutory tax rate influence firms' tax planning." I would like to check if the change of status in 2014 has had an impact on the companies' tax avoidance practices and their value.

In the second part, I try to answer to the research question" Do family firms pursue less tax aggressive strategies than non-family-owned firms?." Answering to this question for a country which has, in a window of 10 years sensitively improve their corporate governance regulations, can give other results than developed countries where corporate governance has been a priority for a longer period. In these last countries, regulators and individuals have been particularly severe with compliance for a longer period (Particularly since the Enron Scandal) and the results could therefore be different.

In the third part, I try to test whether firms in the SET can improve their value through tax aggressiveness methods.

I.   Literature review

The straight relation between tax avoidance and firm values have been thoroughly researched.

In the US market, Desai & Dharmapala (2005), analyzed in their paper what kind of impact could tax avoidance have on firms' values when factoring the corporate governance of the firms. They found out in their results that tax planning effectively grants companies with good corporate governance a higher after-tax cash flow which should in turn raise the shareholders' equity. To get to their results, they measure corporate tax avoidance by analyzing the gap between financial and taxable income.

This research paper shed new light on the relation of agency issues with regards to tax avoidance. Tax avoidance is subject to the implementation by the managers and control by the shareholders. Tax avoidance is therefore subject to the principal-agent problem. Because of their uncertain nature, tax savings are generally hard to estimate and apprehend. It provides a great incentive for managers to use these savings at their own benefit at the discretion of the shareholders [Chen et al. (2013)].

The relation between tax avoidance and family-owned firms have also been studied. Recently, Kovermann and Wendt (2019), investigated this relation in many large private firms in Germany. They discovered that based on 678 large private firms from Germany, family firms avoid more tax than non-family firms. In firms where the management team and the board are closely related, it is not unusual to see managers taking advantage of rent extraction. Nonetheless, I expect in this study to find a different result because private firms and public firms are not scrutinized in the same

fashion. Family in public firms face higher indirect costs which could prevent them from taking advantage of tax planning. This last assumption is what Chen et al. (2010) documents in their research where they conclude that family owners are preoccupied by their reputation and by the potential long-term impact that could arise from tax planning. Besides, as a comparison to the previous mentioned study from Kovermann and Wendt (2019), family-owned public firms can also suffer from a potential price discount in the market. The offset costs in this setup exceed the prospect of tax savings.

A situation that has been less studied in the literature, is the interaction between corporate tax avoidance and firm value in a period of corporate tax policy change. In 2021, to fight against tax havens, the OECD set up a meeting with more than 130 countries to agree on a minimum corporate tax rate of 15%. As many countries are nowadays close to this corporate tax regime, I hypothesize that the companies in such countries would have less incentives to use tax avoidance methods once these measures are applied. Markle and Shackelford (2012) compared the tax behaviors of companies in 62 countries. This study is among the first to investigate whether different corporate tax regimes can give different level of tax avoidance. They found that the average ETR of US firms is high relative to that of firms in other countries and has declined over the sample period. These results are very consistent with another more recent study as follows. Thomsen and Waltrin (2018) investigated whether changes in statutory tax rates (STRs) of European countries have a relation with the decline of ETRs of European firms. They found that the difference between the statutory tax rate and the effective tax rate has declined over time.

II.   Data

The sample for this study will consist of firms listed on the Stock Exchange of Thailand from a first period 2009-2011 and a second period from 2016-2019.

Because I want to study how corporate tax regime influence the behavior of firms, I choose only companies which follow the same regime. As a matter of fact, I need to exclude firms in the financial and real estate industries as they do not follow the same regime as other industries.

I choose to study companies in Thailand because the country presented a particularly good setup for the study of corporate tax avoidance.

Firstly, Thailand has recently changed their corporate tax policy in 2014. Therefore, I can compare the recent years following the ratification of the new regime to the previous periods when the corporate tax policy was different. As one of the research questions is concerned about how tax policy can influence tax avoidance, this situation fitted well.

Secondly, another question I would like to answer to is "how does corporate governance function as a moderator to the relation between tax avoidance and firm value." The 1997 Asian financial crisis has deeply shaken the economics of the southeast Asian countries. Consequently, the ASEAN zone has been working on straightening laws and regulations ever since. In 2013, the organization introduced the

ASEAN Corporate governance scorecard surveys.

> **Box 1. Key milestones reached: the ASEAN Capital Markets Forum Implementation Plan 2009**
>
> - **Expedited Entry of Secondary Listings**
>   In 2012, regulators from Malaysia, Singapore and Thailand signed a memorandum reducing the time-to-market for companies seeking a secondary listing in a participating ASEAN country to 35 business days.
>
> - **Implementation of ASEAN Disclosure Standards**
>   This framework enables issuers of debt and equity to comply with a single set of disclosure standards for prospectuses. Implemented by Malaysia, Singapore and Thailand in 2013.
>
> - **Streamlined Review Framework for Common Prospectuses**
>   In 2015, a Memorandum of Understanding (MoU) was signed by Malaysia, Singapore and Thailand in order to synchronise the review process of prospectuses for securities offering or listing applications.
>
> - **ASEAN Trading Link**
>   In order to promote intra-ASEAN cross-border trading of equity, the ASEAN Trading Link connects stock exchanges in Malaysia, Singapore and Thailand.
>
> - **ASEAN Corporate Governance Scorecard**
>   Introduced in 2011, this initiative assesses Corporate Governance standards and practices of ASEAN publicly listed companies, improving the international visibility to well-governed ASEAN companies. Participants of this initiative are Indonesia, Malaysia, the Philippines, Singapore, Thailand and Viet Nam.
>
> - **ASEAN Collective Investment Schemes (CIS)**
>   Operationalised in Malaysia, Singapore and Thailand in 2014, this framework allows fund managers of a member jurisdiction to offer cross-border CIS to retail investors under a streamlined authorisation process.
>
> - **Ad-hoc technical support**
>
> *Source:* ASEAN Capital Markets Forum (ACMF)

As for Thailand, many regulations have been introduced since 2002 to improve the corporate governance overall. In 2002, Thailand introduced a corporate governance code. It includes 15 principles of good corporate governance which companies should follow to be compliant with the rules and regulations of the country.

This document addresses the protection of rights for minority shareholders and other stakeholders, the importance of independent directors and the disclosure of potential conflicts of interest, among other issues [Kouwenberg (2010)]. However, most of these policies are voluntary. Only a few policies must be followed if companies are part of the SET: Establishing a proxy, having an audit committee, and having at least three independent directors. Then in 2006, the SET updated the corporate governance code with "The Principles of Good Corporate Governance".

This new updated code was made closer to the one instituted by the OECD. An important add-on is that firms need to explain the reason they do not comply with any of the principles.

Finally, Thailand has one of the biggest stock Market in the southeast Asian zone (Figure 2) which gives us the possibility to analyze more firm-years than if we took another country in the region.

Table I: Stock exchanges for each country and their characteristics

Table 2. Stock exchanges in the Asia region, as of end 2018

	Stock exchange	Legal status	Self-listing	Market capitalisation (USD billion)	Number of listed companies	Trading volume (USD billion)
Bangladesh	Dhaka SE	Private company	No	40	311	16
	Chittagong SE	Private company	No	0.04	282	1
China	Shanghai SE	State-owned	No	3 919	1 450	6 037
	Shenzhen SE	State-owned	No	2 405	2 134	7 499
Hong Kong (China)	Stock Exchange of Hong Kong	Joint Stock Company	Yes	3 819	2 315	2 340
India	National SE	Joint Stock Company	No	2 056	1 923	1 164
	Bombay SE	Joint Stock Company	No	2 088	5 233	116
Indonesia	Indonesia SE	Private company	No	487	619	106
Japan	Tokyo SE	Joint Stock Company	Yes	5 297	3 657	6 291
Korea	Korea Exchange	Joint Stock Company	No	1 414	2 207	2 508
Malaysia	Bursa Malaysia	Joint Stock Company	Yes	398	912	137
Mongolia	Mongolian SE	State-owned	No	1	198	0.14
Pakistan	Pakistan SE	Private company	Yes	71	558	17
Philippines	Philippine SE	Joint Stock Company	Yes	258	267	29
Singapore	Singapore Exchange	Joint Stock Company	Yes	687	741	222
Sri Lanka	Colombo Stock Exchange	State-owned	No	16	297	1
Chinese Taipei	Taiwan SE	State-owned	No	959	945	967
	Taipei Exchange	State-owned	No	92	766	269
Thailand	Stock Exchange of Thailand	State-owned	No	501	704	388
Viet Nam	Ho Chi Minh SE	State-owned	No	124	373	46
	Hanoi SE	State-owned	No	8	376	8

Source: World Federation of Exchanges and stock exchanges' websites.

A. Measure of tax aggressiveness

In the literature, tax aggressiveness has been measured using two methods mainly.

$$GAAP\ ETR_{i,j} = \frac{Income\ tax\ expenses_{i,j}}{Pre-tax\ accounting\ income_{i,j}}$$

One limitation of the GAAP ETR that Desai and Dhammika (2009) used in their paper, is that it considers all deferred taxes assets and liabilities. Deferred tax assets (DTA) allow companies to carryover losses from previous years to reduce their tax expenses. In Thailand, the tax losses can be carried forward for 5 years.

In other words, the GAAP ETR will not allow us to see the impact of deferred taxes strategies. To fix the limitations which could arise from the use of the GAAP ETR, we use another measure:

$$Current\ ETR_{i,j} = \frac{Current\ income\ tax\ expense_{i,j}}{Pre-tax\ accounting\ income_{i,j}}$$

The current ETR (CETR) measures the amount of current income tax expense, which means it excludes the deferred income tax expense. As a matter of fact, using CURRENTETR allows to see the impact of tax deferral strategies.

In this study, I analyze the firms tax avoidance behaviors in distinct periods. Therefore, solely using the current ETR measure will not be appropriate in this situation. Indeed, the two distinct periods have different statutory tax rate and using the current ETR will therefore show us a tax gap with statutory tax rate bigger than it should be.

Therefore, I proceed with a tax differences measure which is obtained by subtracting the current effective tax rate paid by each company with the appropriate statutory tax rate in each period.

$$Tax\ differences_{i,j} = \text{Current ETR} - \text{Statutory tax rate}$$

B. Measure of corporate governance

I follow the method used by Minnick, Noga (2016) to evaluate the efficiency of the corporate governance for the companies in the SET and we adapt it to the information available in Thailand. I split the corporate governance score into three categories.

The first category comprises information related to the firms' board of directors. We know from previous studies that independency is a key factor in controlling and guiding a firm. Therefore, I test for the board independency by determining how many directors in the board are independent. I also check if the chairman is an independent director as he is the link between the firms' executives and the board of directors. His decision can be determining for firms' future directions. As for the CEOs, I test whether they are sitting on the board and whether the CEOs are also the chairman on the board of director.

The second category gives information on the independency and competencies of the firms' audit committee. This committee evaluates the financial performance of a company as well as the accuracy and fairness of its financial statements. I first check whether this committee exists in each company and the attendance for each director. I

then check whether the directors are competent to analyze financial statements to perform their tasks.

The last category provides information on the relationship between members of the board of directors and the firms they operate in. Unlike the Audit committee in which each member must be independent and therefore usually does not hold shares, the rest of the members in the board are not required by the SET to be independent. As previously studied in the literature, I assume that a director who holds less shares will be more likely to protect the shareholders and therefore prevent the firms from undertaking risky operations.

Table II
Corporate governance score

Firm characteristics	Explanation	Scoring method	Variable dataset
Board independence	Indicates whether the board is independent	0 if less than 1/3 of the directors are independent, 1 if 1/3 are independent, 2 if more than 1/3 are independent	Setsmart, Annual report and 56-1
Chairman independence	Indicates whether the chairman is independent	1 if chairman is independent, 0 otherwise	Setsmart, Annual report and 56-1
Board CEO	Indicates whether the CEO is on the board of directors	1 if the CEO is not on the board, 0 otherwise	Setsmart, Annual report and 56-1
Chairman CEO	Indicates whether the CEO is also the chairman	0 if the CEO is also the chairman, 1 otherwise	Setsmart, Annual report

			and 56-1
Big 4 audit	Indicates whether the company is audited by a top 4 audit firms	1 if the advisor is PWC, Deloitte, EY, KPMG, 0 otherwise	Setsmart, Annual report and 56-1
Existence of Audit Committee	Indicates whether the company has an internal audit committee	1 if there is an audit committee, 0 otherwise	Setsmart, Annual report and 56-1
Audit committee expertise	Indicates whether the audit committee possesses an accounting background and or MBA/Economics background	1 for an accounting background, 0.5 for an MBA/Economics background, 0 otherwise	Setsmart, Annual report and 56-1
Audit committee independence	Indicates whether the audit committee is independent	1 if all directors are independent, 0 otherwise	Setsmart, Annual report and 56-1
Audit committee attendance	Indicates the average percentage of attendance of directors in audit committee's meetings	0 if less than 75%, 1 if from 75% to 90%, 2 if more than 90%	Setsmart, Annual report and 56-1
Directors' ownership	Indicates the percentage of shareholding of directors	0 if the largest director's shareholding is more than 10% of issued capital, 1 if from 5% to 10%, 2 if below 5%	Setsmart, Annual report and 56-1

C. Measure of ownership structure

In this paper, I would like to evaluate if the ownership structure of a company an influence on the relation between corporate governance and firms' value. As a matter of fact, I am separating the firms by 2 categories:

- The first category is composed of firms which are family owned. We define as family-owned a firm in which the family owns 20% or more of the shares.
- The second category considers all other types of firms

In the Stock exchange of Thailand, One-third of the firms listed are family-owned.

To assess the family ownership, I looked at the number of shares owned by individuals with the same family name. This information is available from the website SET SMART which records every information related to firms in the Stock exchange of Thailand. This method is however not perfect. Firstly, it does not account for members of the founding family with a different last name. Therefore, it is possible that when accounting for these family members, the percentage of ownership of the family is higher than suggested in this paper. Secondly, it does not account for family ownership in wholly owned subsidiary or by means of minority interests. Indeed, by owning the parent company, the family owners could effectively also control the subsidiaries. However, SET Smart website does not give information on such setup. Although this method is perfectible, it still gave an appropriate idea of the relationship between family ownership and tax differences.

In their paper, Fama and Jensen (1983) found that firms with greater concentration of ownership and control are more risk- averse than firms with less concentrated ownership and control. Consequently, we predict that family-owned

firms in Thailand will pay a higher amount of income taxes than other types of firms where the ownership and control is very dispersed.

III. Methodology

Our first hypothesis is presented as follow:

Hypothesis 1: Corporate tax policies have an impact on firms' tax aggressiveness behavior

$$TA_{i,t} = \text{\ss}_0 + \text{\ss}_1\ AUDITSCORE_{i,t} + \text{\ss}_2\ BOARDSCORE_{i,t} + \text{\ss}_3\ DIRECTORS_{i,t} + \text{\ss}_4\ INTANGIBLE_{i,t} + \text{\ss}_5\ DEBT_{i,t} + \text{\ss}_6\ ROA_{i,t} + \text{\ss}_7\ PPE_{i,t} + PERIOD\ DUMMY + \text{\Large\epsilon}_{i,t}$$

I want to evaluate whether the change in statutory tax rate introduced in 2014 had an impact on the amount of tax differences found in firms. I use the regression model above where TA is the indicator for tax differences. TA represents the difference between the amount of taxes to be paid as per the statutory tax rate and the amount of taxes actually paid by firms.

We control for the firms' intangible assets (INTANGIBLE) as R&D investments can be used for tax deductions for an amount up to 300% of the expenses in R&D. We also control for ROA as it is an indicator for the firms' overall performance.

The last variable is a year dummy. I would like to compare the relationship between tax aggressiveness and the statutory tax rate in 2 periods. The first period

goes from 2009-2011 and it accounts for the period when the statutory tax rate was set at 30% and the second period goes from 2016 to 2019 which accounts for the period when the corporate income tax was reduced to 20%.

I expect to see 2 different results here. In the first period, I expect to see a higher tax difference with regards to the statutory tax rate. Indeed, as the corporate tax policy is high, we expect companies to look for ways to reduce their tax expenses which then represents a big part of their total expenses.

In the second period, we expect to see companies avoiding taxes on a lower magnitude. Indeed, with a reduction of corporate income tax, companies would have less incentives to avoid paying taxes. The decrease of 10% in corporate tax policy should prevent companies from looking for more tax savings as the offset costs could in this case be superior to the potential benefit of tax avoidance.

Hypothesis 2: Family-owned firms pursue less aggressive tax strategies as compared to firms with a broader type of shareholders

$$TA_{i,t} = ß_0 + ß_1\ FAMILYOWNERSHIP_{i,t} + ß_2\ AUDITSCORE_{i,t} + ß_3\ BOARDSCORE_{i,t}$$
$$+ ß_5\ DIRECTORS + ß_6\ INTANGIBLE_{i,t} + ß_7 DEBT_{i,t} + ß_8\ ROA_{i,t}$$
$$+ ß_9\ PPE_{i,t} + 1st\ Period\ Dummy + Ɛ_{i,t}$$

We know from previous research papers that companies with very concentrated equity ownership are more likely to take less risky decisions (Fama and Jensen, 1983). As ownership is more concentrated into a few amounts of

shareholders, the costs inherent to the use of tax avoidance will be shared into a smaller group of individuals. Among these costs, many are indirect, such as reputational costs or capital costs. Consequently, we expect to see family-owned firms take less risks when it comes to avoiding paying taxes.

Hypothesis 3: Firms with good corporate governance improve their values using tax planning

The first hypothesis in this study tests whether corporate governance and statutory tax rate amendment have an impact on the amount of tax savings realized through tax aggressiveness.

With this third hypothesis, I would like to test whether characteristics of the corporate governance can be moderators in the relation between tax avoidance and the firms' values.

In order to test this hypothesis, I first make a regression to check whether the corporate governance indicators have a positive impact on the firm performance indicator.

$$\text{TOBIN'S Q}_{i,t} = \beta_0 + \beta_1\ AUDITSCORE_{i,t} +\ \beta_2\ BOARDSCORE_{i,t} + \beta_3\ DIRECTORS_{i,t}$$
$$+\ \beta_4\ INTANGIBLE_{i,t} + \beta_5 DEBT_{i,t} + \beta_6\ ROA_{i,t}\ + \beta_7\ PPE_{i,t} + \varepsilon_{i,t}\ (1)$$

I then rank companies according to their corporate governance score and compare the mean statistics for Tobin's Q and Tax differences within these three groups. The first group will include all firms with a corporate governance score lower than the median score. The second group will include all firms with a score equal to the median score. The third group will include all firms with a score higher than the median score. (2)

Once all companies are ranked in one of these three groups of corporate governance, I separate further into 3 subgroups of tax differences. I would like to check whether companies with higher tax differences shows a higher Tobin's Q means within each corporate governance group.

Firstly, I expect to see a higher Tobin's Q means for firms with higher corporate governance scores. Secondly, within the high corporate governance score group, I expect that firms with higher tax differences shows a higher Tobin's Q.

SUMMARY STATISTICS

Table II summarizes the descriptive statistics for all the variables in the panel.

The first variable which represents the difference between the statutory tax rate in place and the effective tax rate companies are paying, has a mean of -3.281. As a matter of fact, we can postulate that companies are on average implementing tax optimization methods.

The second variable, the Tobin's Q, which is used as a proxy to indicate the performance or the value of a firm, has a mean of 1.543.

The corporate governance score comprises three sub-categories as indicated in the Table II. The first sub-category is an indicator of the firms' audit score and is on average 4.779 out of a maximum score of 7. This indicator is the one which firms score the highest compared to all other corporate governance variable which shows the willingness from the firms to ensure they properly report their financials to stakeholders. Our second sub-category is an indicator of the firms' director's shareholding in the company. The average score for this sub-category is 1.167 out of a maximum score of 2 which means that most firms directors in our sample hold between 0% to 10% of the issued capital. The last sub-category is a score for the firms' board of directors. The score is on average 2.744 which indicates that although the government has recently made a point of improving the corporate governance of the companies in the stock market, it is still currently a work-in-progress for most companies

As for the control variables, the average of intangible is 9.605, ratio of debt on equity (DEBT) is 0.2632, PPE propensity is 0.4149, logarithm of assets is 15.82 and return on assets (ROA) is 0.1176.

Table IV summarizes the descriptive statistics for each of the periods studied. The mean of Tobin's Q for most years in the second period is higher than for years in the first period. On the other hand, the mean for tax differences is higher for years in the first period than for years in the second period. This is consistent with the fact that companies have reduced tax avoidance following the change of corporate tax policy in Thailand.

Table V summarizes the descriptive statistics for different threshold of family's ownership in family-owned firms. We can see from the table that non-family-owned firms tend to avoid paying taxes more than family-owned ones. Besides, we can also see that no family ownership firms, and low family ownership firms has a higher Tobin's Q mean than firms with higher concentration of family ownership. This is consistent with previous studies assumptions that lower concentration of ownership usually means a higher tendency to avoid paying taxes and more knowledge and expertise for the firm to develop its financial results.

Table III
Descriptive statistics

	Mean	SD	25th	Median	75th	Min	Max
Tax Variables							
Tax differences	-3.281	8.869	-7.545	-2.270	0.190	-30.00	53.15
Firm Value							
Tobins'Q	1.543	1.041	0.845	1.543	1.911	0.3263	7.248
Firm-specific Variables							
INTANGIBLE	9.6050	5.1459	8.2620	9.9920	12.8640	-	19.1698
DEBT	0.2632	0.4212	-	0.0615	0.3738	-	3.702
ROA	0.1176	0.0744	0.0700	0.1000	0.1500	-	0.5
PPE	0.4149	0.2105	0.2600	0.4100	0.5600	-	0.9
ASSET	15.82	1.76	14.66	15.44	16.56	12.61	21.61
Governance Variables							
1. Audit score	4.779	1.12817	4	5	5.5	2	7
A. Big 4 Audit	0.6026	0.48982	-	1	1	-	1
B. Existence of Audit committee	1	-	1	1	1	1	1
C. Attendance of Audit committee	1.72	0.6349	2	2	2	-	
D. Audit committee expertise	1.427	0.6637	1	1.5	2	-	3
2. Directors' ownership	1.167	0.89835	-	1.5	2	-	2
3. Board score	2.744	1.35737	2	3	3	1	5
A. Chairman independent	0.3718	0.48373	-	-	1	-	1
B. CEO on board	0.5	0.50046	-	0.5	1	-	1
C. DCEO	0.9231	0.26671	1	1	1	-	1
D. Board independency	0.9487	0.50423	1	1	1	-	2

Table IV
Pearson correlation

	BOARD SCORE	AUDIT SCORE	DIRECTORS' OWNERSHIP	FAMILY OWNERSHIP	ROA	PPE	DEBT RATIO
BOARD SCORE							
AUDIT SCORE	-0.67						
DIRECTORS' OWNERSHIP	-0.05	0.01					
FAMILY OWNERSHIP	0.1	0.03	-0.63				
ROA	-0.05	0.03	0.03	0.03			
PPE	0.04	0.08	-0.01	0.1	0.1		
DEBT RATIO	0.03	0.12	0.23	-0.23	-0.28	0.06	
INTANGIBLE	-0.03	0.13	0.3	-0.29	-0.02	0.1	0.42

Table V
Descriptive statistics for the 2 main variables for each period

Years	N	Mean	
		TAX DIFFERENCES	TOBIN'S Q
2009	78	-6.472	1.173
2010	78	-6.311	1.498
2011	78	-3.930	1.484
2016	78	-1.646	1.860
2017	78	-2.143	1.843
2018	78	-1.400	1.517
2019	78	-1.067	1.427

Table VI

Descriptive statistics for Family ownership

Descriptive statistics for different level of Family ownership with regards to the two dependent variables, Tobin's Q and Tax differences

Family ownership	N	Mean	
		TAX DIFFERENCES	**TOBIN'S Q**
No Family ownership	330	-9.611	1.823
Family ownership 1% - 25%	49	-4.068	1.896
Family ownership 26% - 50%	112	-2.838	1.565
Family ownership 51% - 75%	56	-0.050	1.503

IV.   EMPIRICAL RESULT

A. Corporate tax policy and tax aggressiveness

As hypothesized in this study, I compare the tax aggressiveness indicator in each period to check whether corporate policy rate could have an impact on how companies behave with regards to tax obligations. I use the random effect to examine the relation between these two variables.

The result of this relationship is shown in the table V. The dummy variable for the first period in which the corporate tax rate was 30% is negatively related with the tax aggressiveness coefficient and significant. This result is consistent with previous studies [Thomsen, Waltrin (2018)] which states that companies with the highest ETR,

a large part of them have their parent company in a high corporate income tax country. In other words, if the country decides to lower the corporate income tax, it is expected that companies will be more eager to comply with the law and regulations.

As for the control variables, the coefficient for company profitability (ROA) is negatively related with the tax differences indicator with high significance. This is consistent with previous studies as we expect large companies to possess more knowledge and a higher budget to find loopholes or method to pay less taxes. Also, large companies have better chances of attracting experienced investors or experienced executives with knowledge on tax incentives methods. The coefficient for company's debt level (DE) is also negatively related to the tax aggressiveness indicator as we expect companies with a higher tax burden to benefit from taxes incentives or tax shield.

Finally, I analyzed the relation of corporate governance indicators with the indicator for Tax aggressiveness. Among all corporate governance indicators, only the Audit Score indicator has a significant negative relation with Tax aggressiveness. It therefore implies that companies hire audit firms with good reputation to correctly assess the amount of taxes they can save.

Table V

Statutory tax rate – Tax differences relation

Random effect model including regression between the dependent variable as the indicator for tax aggressiveness, TAX DIFFERENCES and all independent variables including AUDIT SCORE, BOARD SCORE, DIRECTORS' OWNERSHIP, PERIOD DUMMY, INTANGIBLE, DEBT, ROA, PPE ***,**,* indicate significance level at 10%, 5%, 1% respectively.

	TAX DIFFERENCES				
	Estimate	Std.error	t-value	Pr (>t)	
(INTERCEPT)	7.557	3.180	2.377	0.0175	*
PERIOD DUMMY	-3.109	0.685	-4.541	5.60^{E}-06	*
AUDIT SCORE	-1.713	0.448	-3.828	0.0001	***
BOARD SCORE	-0.043	0.773	-0.056	0.9556	
DIRECTORS' OWNERSHIP	-0.299	0.757	-0.394	0.6932	
INTANGIBLE	0.332	0.115	2.897	0.0038	**
DEBT	-2.553	1.146	-2.227	0.0259	*
ROA	-20.991	6.003	-3.4969	0.0005	***
PPE	-2.745	2.591	-1.0598	0.2892	

Signif. Codes :		0.001 '***'	0.01 '**'	0.05 '*'	

Total Sum of Squares :   29890
Residual Sum of Squares : 26747
R-Squared : 0.10514
Adj. R-Squared : 0.091783
Chisq: 63.0183 on 6 DF, **p-value:** 1.1881E-10

B. Tax aggressiveness and family ownership

Table VI shows the relationship between family ownership and tax aggressiveness. The relationship has a positive sign as expected from the previous literature on the subject. As shown in the table, it can be said that the more concentrated is the family ownership, the less tax differences with the corporate income tax the companies have.

It is consistent with previous studies which hypothesize that Family firms engage in less tax avoidance to avoid being sanctioned due to the taxation problems [Lee, Bose (2021)].

Another reason which could explain why Family firms engage in less tax avoidance is the fact that tax aggressiveness schemes are often associated with rent extraction and agency theory [Desai and Dharmapala's (2006)]. Indeed, as family owners have responsibilities in the executive teams and in the board of directors, minority shareholders will tend to penalize the possible rent extraction from undisclosed activities. Therefore, family owners will forego the benefits from tax benefits when the risk counterpart increase.

Table VI

Family Ownership – Tax differences relation

Random effect model including regression between the dependent variable as the indicator for tax aggressiveness, TAX DIFFERENCES and all independent variables including AUDIT SCORE, BOARD SCORE, DIRECTORS' OWNERSHIP, FAMILY OWNERSHIP, INTANGIBLE, DEBT, ROA, PPE ***,**,* indicate significance level at 10%, 5%, 1% respectively.

	TAX DIFFERENCES			
	Estimate	**Std.error**	**t-value**	**Pr (>t)**
(INTERCEPT)	5.329	3.339	1.596	0.1105	
FAMILY OWNERSHIP	0.078	0.039	2.008	0.0445	*
PERIOD DUMMY	-3.026	0.684	-4.422	9.74$^{\mathrm{E}}$-06	***
AUDIT SCORE	-1.747	0.446	-3.920	0.0001	***
BOARD SCORE	-0.060	0.767	-0.078	0.9374	
DIRECTORS' OWNERSHIP	0.850	0.942	0.902	0.3668	
INTANGIBLE	0.358	0.115	3.107	0.0019	**
DEBT	-2.444	1.143	-2.138	0.0325	*
ROA	-21.298	5.984	-3.559	0.0004	***
PPE	-3.227	2.588	-1.247	0.2123	

Signif. Codes :		0.001 '***'	0.01 '**'	0.05 '*'

Total Sum of Squares :   29798
Residual Sum of Squares :   25699
R-Squared :   0.13755
Adj. R-Squared :   0.12304
Chisq: 85.3716 on 9 DF, **p-value:** 1.3752e-14

C.   Tax aggressiveness and firm value

We know from the first hypothesis and regression that some aspects of corporate governance have an impact on the behavior of companies with regards to their tax commitment. The only corporate governance score which influences firms' tax aggressiveness is the audit score for each firm.

With this third hypothesis, I would like to check whether companies with a good audit score and hence a good corporate governance increase their value through tax aggressiveness.

Table VII is a random effect model used to run the panel regression between the Audit Score and the Tobin's Q for our sample. The result is that Audit Score has a positive and significant effect on the Tobin's Q.

Table VIII is a descriptive statistics table to test for 9 panels. The first panel is composed by companies with a low audit score, the second panel is composed by companies with a median audit score and the last panel is composed by companies with a high audit score. The results shown on this table are consistent with the regression stated previously.

Nonetheless, this table also shows that in both the low score audit group and the high audit group, the tax differences is negatively correlated with the mean of the Tobin's Q. In other words, investors will penalize companies with high tax differences even when the corporate governance score is high, and they will invest at a price premium when companies show less tax aggressiveness behavior.

This result is inconsistent with the third hypothesis tested here, which stated that firms with good corporate governance improve their value through tax optimization. This is also inconsistent with the research done in the US market from Desai and Dharamshala (2009) which found that on average tax avoidance does not improve the firm value but that firms with good corporate governance improve their value through tax avoidance.

Table IX is a test performed in order to compare the mean differences between each group of audit score as well as each group of tax differences. The result of the test gives a p-value > 0.05 which means that the null hypothesis needs to be accepted. In this case, it means that the mean of Tobin's is not significantly different within each group. Therefore, we cannot say that Tax aggressiveness has an impact on the firms' value.

Table X confirms the findings of table IX by comparing in detail the significance of the mean difference for each given group.

These results are consistent with research papers investigating the relationship between tax avoidance and firm value in Asia. Chen, Hu, Wang (2014) found that tax avoidance behavior in Chinese listed firms leads to higher agency costs which then in turns reduce the firms' value. Chen, Sapiei, Abdullah (2018) found that tax avoidance activities does not enhance the value of firms in Malaysian Public Listed companies.

Table VII
Corporate governance score – Tobin's Q relation

Random effect model including regression between the dependent variable as the indicator for firm's performance, TOBIN'S Q and all independent variables including AUDIT SCORE, BOARD SCORE, DIRECTORS' OWNERSHIP, FAMILY OWNERSHIP, INTANGIBLE, DEBT, ROA, PPE
***, **, * indicate significance level at 10%, 5%, 1% respectively.

	TOBIN'S Q				
	Estimate	Std.error	t-value	Pr (>t)	
(INTERCEPT)	-0.003	0.296	-0.012	0.99061	
AUDIT SCORE	0.091	0.040	2.292	0.02191	***
BOARD SCORE	0.036	0.075	0.476	0.6339	
DIRECTORS' OWNERSHIP	-0.088	0.073	-1.20	0.2299	
INTANGIBLE	0.047	0.010	4.873	1.10^{E}-06	**
DEBT	-0.011	0.100	-0.108	0.91433	
ROA	6.104	0.501	12.178	$< 2.2^{E}$-16	***
PPE	-0.126	0.230	-0.550	0.58216	

Signif. Codes :		0.001 '***'	0.01 '**'	0.05 '*'	

Total Sum of Squares : 247.23
Residual Sum of Squares : 184.41
R-Squared : 0.25408
Adj. R-Squared : 0.24436
Chisq : 182.18 on 6 DF , **p-value** : <2.22E-16

Table VIII
Tobin's Q by audit score & tax differences

Audit score	Tax differences	N	Tobin's Q	
			Mean	**SD**
	Low tax differences	132	1.54	1.19
Low audit score	Mid tax differences	35	1.65	1.10
	High tax differences	71	1.30	0.66
	Low tax differences	44	1.62	1.17
Median audit score	Mid tax differences	20	1.54	0.85
	High tax differences	47	1.49	0.83
	Low tax differences	80	1.69	1.05
High audit score	Mid tax differences	31	1.91	1.61
	High tax differences	79	1.41	0.74

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Table IX
Wilcoxon rank sum test

Data:	Tobin's Q by tax differences group
W = 268123	**P-value** = 0.6343
Alternative hypothesis	True location shift is not equal to 0

Table X
Pairwise comparison

	Low audit high tax	Low audit low tax	Low audit mid tax	Mid audit high tax	Mid audit low tax	Mid audit mid tax	Top audit high tax	Top audit low tax
Low audit low tax	0.759							
Low audit median tax	0.33	0.518						
Median audit high tax	0.269	0.386	0.970					
Median audit low tax	0.477	0.622	0.818	0.767				
Median audit mid tax	0.281	0.558	0.993	0.802	0.858			
Top audit high tax	0.418	0.503	0.749	0.628	0.956	0.610		
Top audit low tax	0.053	0.063	0.614	0.592	0.366	0.758	0.258	
Top audit mid tax	0.128	0.219	0.523	0.655	0.589	0.709	0.461	1

V.   FINDINGS/IMPLICATIONS

I iniated this research paper in order to compare the tax aggressiveness in each period, to analyze if companies' structure have an impact on tax aggressiveness and to check whether tax differences could have an impact on the firm's valuation.

The first finding is that companies gets less tax differences as the statutory tax rate decreases. It can be implied that the risks involved in reducing tax payments outweigh the benefits in this case. It is therefore interesting to state that the governmnent can effectively nudge companies by modifying their rules and regulations. Rather than having firms' leaving the country for tax havens which would mean no taxes paid locally, the government can create incentives and promote business opportunities.

The second hypothesis results suggest that Family-owned firms tend to be less tax aggressive than their counterpart. This is relatively rational as many studies showed that a higher concentration of ownership leads to a higher risk averse behavior. In Thailand, most families do not own solely one company. However, it can be implied that once a company fails to meet its reponsibilities in Thailand, the reputation will be tied to the family and to other owned businesses.

The results found in this research do not support the straightforward assumption that costs savings lead to profit increase and a better company valuation. Tax aggressiveness allows company to reduce the gap between their profit before tax and their net profit. In other words, tax aggressiveness gives a profit and cash surplus which shall go directly into the shareholders' equity. Therefore, we would logically assume that shareholders view this operation as beneficial for them. However, this is ignoring the costs/benefits ratio of these operations.

Thailand was a good fit for this study as the country has continuously pushed firms to improve their corporate governance. Therefore, it was only rational to believe that investors or shareholders give more trusts to internal and external controls of the firms. The findings suggest that on average, the external auditor indeed helps companies improve their values but that it is less the case for the internal audit. The implications could be that the SET has imposed these corporate governance conditions to companies. Consequently, companies might only follows the strict minimum requirements for compliance instead of putting extra effort into amelioring the firms internal controls.

An explanation for the positive relationship between some aspects of corporate governance and firm valuation could come from advices on an operational aspect. On the other hand, tax aggressiveness can be perceived as dangerous from shareholders as it comes with a certain opacity and can be part of an agency problem. It can therefore be suggested that shareholders do not value advices on tax aggressiveness as it comes with a degree of uncertainty and is controlled by internal auditors which are not always chosen for their ability to read financial statements.

VI.   CONCLUSION

The purpose of this study is to test whether increases in profits obtained from tax optimization methods has an impact on how investors perceive the value of firms with various level of corporate governance. Besides, I use a panel data for two distinct periods to check whether the perception of tax aggressiveness is the same when changes are made to the rules and regulation of the country. This study also intends to check whether corporate governance and family ownership have an influence on the firms' decision to aggressively reduce their tax obligations.

The results showed that some elements of corporate governance indeed have an impact on the amount of tax savings. The reputation of external auditors as well as the competence of internal audit committees have a negative and significant relation with regards to tax aggressiveness. In other words, firms with confidence over their corporate governance tend to pay less taxes than initially indicated by the statutory tax

rate. The advice provided by audit firms may reinforce the opinion of the board that tax optimization is legal and will not be penalized.

It can be said from this study that family ownership has a positive impact on how much taxes firms are paying. Previous studies have stated that family-owned firms always tend to be more risk-averse than companies with less concentrated ownership. These families will try to avoid being related to bad reputation arising from illegal actions. Besides, family-owned firms are also aware of the agency theory which can arise between minority shareholders and larger shareholders. Therefore, it is expected that family-owned firms will avoid any action which can be perceived as rent extraction arising from unethical actions.

The results also showed that the audit score for each company has a positive impact on the firms' value. This is consistent with the fact that shareholders will have a positive opinion on the reliability of the firms results.

However, the results contradict the hypothesis that firms can improve their value through tax aggressiveness if there is a good corporate governance. Instead, we can see that higher tax differences lead to lower firm's value no matter the score of corporate governance.

All these findings are consistent with previous studies done in Asia by [Chen, Hu, Wang (2014)] and [Chen, Sapiei, Abdullah (2018)]. The audit score for each company is negatively related with tax differences as auditors may help firms find loopholes or incentives. The audit score is also positively related with firms' value which is consistent with the fact that good corporate governance gives more

transparency and confidence to investors which in turn increase the company valuation.

To put it in a nutshell, it is not possible with this study and the results obtained to state that auditors ameliorate firms value through tax differences.

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