ATLANTIS PRESS

Advances in Economics, Business and Management Research (AEBMR), volume 55

6th International Accounting Conference (IAC 2017)

The Role of Corporate Governance in Financial Derivative Utilization for Corporate Tax Avoidance: Evidence from an Emerging Market

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This research aims to analyze the role of financial derivatives utilization in corporate tax avoidance, and the moderating role of good corporate governance implementation on this relationship. Using data for non-financial companies listed in the Indonesian Stock Exchange for the period 2012–2014, this research classifies a derivative user as either speculator or effective hedger. The results show that speculator companies exhibit more aggressive tax avoidance than effective hedgers. This research also analyzes the impact of good corporate governance implementation on the relationship between derivatives utilization and corporate tax avoidance levels. The results show that good corporate governance implementation does not significantly reduce the tax avoidance gap between speculator and effective hedger companies.

Keywords: Financial Derivatives; Tax Avoidance; Speculative; Hedging; Corporate Governance.

1. INTRODUCTION

Various studies and publications show that financial derivatives can be used as a tool for tax avoidance[1-3]. Donohoe[4] develops a framework that explains how the fundamental, transactional, tax reporting, and cognitive features of financial derivatives can be used as tax avoidance tools. First, from the fundamental aspect, in a convex tax function situation, earnings volatility increases estimated tax[5]. The use of derivatives as an effective method of hedging can reduce volatility and increase the credit capacity of a company. With the existence of additional debt, the company has an additional interest burden that can decrease its tax base. From the transactional aspect, tax avoidance can involve various types of transactions with certain characteristics, resources, and gain/loss recognition. Derivatives provide features allowing a company to use more than one type and/or form of derivatives transaction. From the aspect of tax reporting, there are still many loopholes in tax regulations that provide flexibility for taxpayers in reporting their complex derivatives transactions. Finally, from the cognitive aspect, the complexity inherent in derivatives instruments can make it difficult for financial report users, including tax authorities, to understand or detect the existence of derivative-based tax avoidance.

This research is the development of previous work[4] and Oktavia and Martani[6], investigating the relationship between the purpose of derivatives utilization and the level of tax avoidance. Using cross-sectional data for non-financial companies listed in the Indonesia Stock Exchange during the period 2012–2014, each user sample was classified into two groups, namely speculators/ineffective hedgers and effective hedgers. This research also examines the moderating role of corporate governance on the relationship between the purpose of derivatives utilization and tax avoidance. The results show that speculator/ineffective hedger companies perform significantly higher levels of tax avoidance than effective hedgers. However, when corporate governance is used as a moderating variable, regression results show that there is no significant effect. The results show that in the case of Indonesia good governance is not proven to reduce the difference in corporate tax avoidance levels between speculators/ineffective hedgers and effective hedgers.

This research is expected to contribute to the development of the literature regarding the utilization of financial derivatives in tax avoidance activities, particularly in relation practices in the emerging market of Indonesia. In considering the growing number of derivatives users in Indonesia, and the lack of regulation governing financial derivatives transactions, we find there is an urgent need to carry out further research in this field. In addition, awareness of the importance of good corporate governance has grown rapidly since the collapse of giant companies resulting from the accounting scandals of 2002. These issues motivate this analysis of the effects of good corporate governance implementation on derivative-based tax avoidance activity. The results of this research provide empirical evidence that financial derivatives utilization significantly influences the level of tax avoidance, and that good governance is not able to reduce this influence significantly. It is expected that these results will become

inputs for regulators in drafting tax regulations related to the use of financial derivatives, because there is still limited regulation regarding derivatives in Indonesia.

This paper is organized as follows: in section 2, the literature review and hypothesis development are presented; in section 3, the research methodology is described and the regression results are presented in section 4. Finally, the work in this paper is summarized in the section 5.

2. LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

Tax Regulation in Indonesia Related to Financial Derivatives

The tax regulations which apply in Indonesia do not specifically set out transaction-related rules for either exchange-traded or over-the-counter financial derivatives. In the past, Indonesia had a regulation governing futures contracts, but only two years after it was introduced it was withdrawn after the Supreme Court granted a petition for judicial review of the regulation. Since the withdrawal of this regulation, the Indonesian government has not published any new regulations to replace it.

Because of the lack of regulation regarding futures contracts, gains and losses arising from financial derivatives are reported as additions or deductions to or from taxable income and are applied to the statutory tariff according to income tax law.

Hypothesis Development

There are two objectives to be achieved by managements through the use of financial derivatives: hedging or speculation. Even though the various empirical evidences support a risk management motive in the use of derivatives, various studies have found that the economic effect of such activity is not significant[7]. In the implementation of hedge accounting, the effective portion will be recognized as equity ('other comprehensive income') and will be included in the income statement after the hedging contracts have ended. Meanwhile, gains/losses that arise from the ineffective portion will be directly recognized in the income statement. The same process applies to the use of derivatives for speculation purposes, in that the gains/losses arising from the changes of value are recognized directly. Using estimates of changes in risk, Donohoe[4] finds that the decline in tax burden caused by hedging activity is lower for those engaged in speculative/ineffective hedging. Based on the results of this research, the authors propose the first hypothesis:

H1: Companies that use derivatives for speculation have higher levels of tax avoidance than those that use it for hedging.

In contrast to hedging activities, speculation can increase earnings volatility that can lead to substantial and long-term abnormal returns during a crisis. The lack of formal rules, lack of monitoring of the activities of risk management, and managerial overconfidence contribute significantly to the misuse of derivatives[8]. Managers tend to increase their speculative activities when gains are being made but do not decrease them in times of losses[9]. These findings strengthen the view of prior study[10] that financial derivatives can also be used for the personal interests of management. Therefore, good corporate governance is essential to avoid agency problems in the use of derivatives.

Previous research on the relationship of corporate governance with the level of tax evasion provides mixed results. The results of various findings suggest that a certain level of tax avoidance activity can provide benefits to shareholders. A smaller tax burden will provide an even greater net profit, and this will increase the value of a company. However, when there is asymmetric information between the management and shareholders, this can lower the value of the company[11].

The existence of asymmetric information makes it difficult for financial statement users, including the tax authorities, to distinguish whether a derivatives transaction was selected for hedging, speculation or to enhance managers' interests[12]. According to Fok, Caroll, and Chiou[13], hedging activity can perform either off-balance sheet or on-balance sheet, with or without the use of derivatives. The existence of off-balance sheet transactions can cause asymmetric information for the user because these transactions are not recorded in the financial statements. The risk of asymmetric information can be reduced by adequate disclosure, especially for off-balance sheet transactions. However, companies rarely give entirely clear disclosure about the thinking behind and purposes of derivatives use[4]. In Indonesia, research regarding the use of derivatives instruments has been examined by Oktavia and Martani[6] who found that there was no significant effective tax rate (ETR) difference between users and non-users of derivatives. However, when the user sample was grouped based on level of disclosure, Oktavia and Martani found that companies with a high level of disclosure exhibited a lower level of tax avoidance. Based on these findings, the authors of this research formulate a second hypothesis as follows:

H2: Good corporate governance can reduce the difference in tax avoidance level between companies that use derivatives for speculation and those that use them for hedging.

3. RESEARCH METHOD

Data and Sample Selection

The data population analyzed in this research consists of the non-financial companies listed on the Indonesia Stock Exchange (IDX). The period examined is from 2012 until 2014. The research uses purposive sampling to determine the sample data to be observed. Samples that did not meet the inclusion criteria were removed from the research. The criteria for inclusion were that the chosen firms should: (a) be non-financial companies; (b) perform derivatives transactions; (c) have no losses in the years of observation; (d) have ETR of not more than 1 (one), or less than 0 (zero); and (e) present complete data as required for the research.

To identify whether a company uses derivatives or not, two stages of identification were needed. First, identification was based on searches for key words associated with derivatives in the annual report for each year for each company. The key words used can be seen in Appendix 1. Then each company's use of financial derivatives for the corresponding years was manually verified. It is possible that one company was selected as a sample more than once.

Model Development

Each sample was classified into two groups, namely speculator/ineffective hedgers and effective hedgers. To perform this classification, the procedure developed by Zhang[14] was used. The identification was based on changes of market risk exposure faced by companies as measured by interest-risk exposure, foreign-currency-exchange-risk exposure, and commodity-price-risk exposure. The absolute value of the estimated coefficient from the regression of the companies' monthly stock returns on the monthly percentage change in the given commodity prices.

To test hypothesis H1, a regression model (Model 1) similar to that proposed by Oktavia and Martani[6] was used, as follows:

$$CTA_i = \alpha_0 + \alpha_1 DERIV_i + \alpha_2 SIZE_i + \alpha_3 ROA_i + \alpha_4 LEV_i + \alpha_5 CAPINT_i + \alpha_6 Y2013_i + \alpha_7 Y2014_i + \varepsilon_i \ldots\ldots (1)$$

where CTA is corporate tax avoidance and will be measured using ETR. Three types of ETR were used: current ETR (CUETR), cash ETR (CAETR), and financial statement ETR (FSETR). ETR is often used in earlier research as a proxy for tax avoidance in various studies in the field of taxation. The greater the tax burden a company has, the greater the ETR value, so higher value of ETR indicates lower levels of tax avoidance. Therefore, the expected coefficient values for CUETR, CAETR, and FSETR are negative. Each ETR is obtained using the following formulas:

$$CUETR = \frac{\text{Current Tax Expense}}{\text{Earning Before Tax (EBT)}}$$

$$CAETR = \frac{\text{Cash Tax Paid}}{\text{Earning Before Tax (EBT)}}$$

$$FSETR = \frac{\text{The Total Tax Expense}}{\text{Earning Before Tax (EBT)}}$$

The independent variable used to test the influence of CTA is the purpose of financial derivatives utilization (DERIV). DERIV is a dummy variable, for which the value of 1 represents speculator/ineffective hedger companies and 0 represents effective hedgers.

The control variables used in the model are the size of the company (SIZE), company profitability (ROA), financing decisions (LEV), and capital intensity (CAPINT). These variables are often used as controls in studies concerning corporate tax avoidance[6,15,16]. The variable, SIZE, is measured using the natural logarithm of company total assets. In this research, profitability is measured using the ratio of return on assets (ROA), which is calculated by dividing profit before tax with company total assets. LEV Leverage (LEV) is calculated as total liabilities deflated by total assets. CAPINT is calculated by dividing net fixed assets with total assets at the beginning of the year. The variables Y2013 and Y2014 are year dummy variables. For Y2013 the value of 1 will be assigned to 2013 observation data and 0 otherwise, while for Y2014 the value 1 will be given to 2014 observation data and 0 otherwise.

Next, to test hypothesis H2, the regression model (Model 2) used is as follows:

$$CTA_i = \alpha_0 + \alpha_1 DERIV_i + \alpha_2 DERIVxGOV_i + \alpha_3 GOV_i + \alpha_4 SIZE_i + \alpha_5 ROA_i + \alpha_6 LEV_i + \alpha_7 CAPINT_i + \alpha_8 Y2013_i + \alpha_9 Y2014_i + \varepsilon_i \ldots\ldots (2)$$

In Model 2, corporate governance (GOV) is added for moderating the earlier model, Model 1. GOV is measured using four proxies, namely the structure of ownership of the company (FAM), the effectiveness of the board of commissioners (BOARD), the effectiveness of the audit committee (KOMA) and audit quality (KAP). Each proxy will be scored with a minimum value of 0 and a maximum of 1. The value of GOV is obtained from the total score of each proxy, giving it a maximum value of 4.

4. RESULTS AND DISCUSSIONS

Research Sample and Descriptive Analysis

In this research, the data used comprises the non-financial companies listed in the IDX during 2012–2014. The sample consists of 103 companies, and this is less than the total number of such listed companies, as some could not be used in the sample for this research because of the implementation of the inclusion criteria (Table 1). From the results of the descriptive analysis as presented in Table 2 it can be seen that for DERIV, the percentage for dummy 1 is 29.13% and for dummy 0 is 70.87%, in which dummy 1 represents use of derivatives for speculative purposes and 0 for hedging purposes. This shows that most companies use derivative instruments for hedging.

Table.1. Results of Sample Selection Procedures

Description:	Obs.
Issuers registered on the IDX for 2015	536
Less: Companies engaged in the financial sector	(142)
Companies engaged in the non-financial sector	394
Companies engaged in the non-financial sector during the years 2012–2014	1,182
Less: Companies that do not use financial derivatives	(957)
Companies that use financial derivatives	225
Less: Financial derivatives users with negative EBT	(53)
Less: Financial derivatives users with negative value of equity	(4)
Less: Companies with ETR value of <=0 or >=1	(22)
The number of the main observations	146
Unavailable or incomplete data	(30)
Outliers	(13)
The number of samples used	103

Table.2. Descriptive Analysis

Variables	Obs. = 103			
	Mean	Std. Dev.	Min	Max
CUETR	0.271	0.140	0.003	0.719
CAETR	0.327	0.187	0.023	0.896
FSETR	0.270	0.121	0.003	0.665
GOV	2.073	0.568	0.798	3.471
SIZE	29.65	1.317	26.43	32.08
ROA	0.136	0.135	0.009	0.586
LEV	0.557	0.160	0.137	0.904
CAPINT	0.475	0.281	0.006	1.370
Dummy variable	Frequency of dummy 1		Frequency of dummy 0	
DERIV	29.13%		70.87%	

Regression Result

The results of the regressions are presented in Tables 4 and 5. They indicate that the purpose of financial derivatives utilization by companies has a significant relationship with the level of tax avoidance when measured using the current tax rate. When measured using CAETR, DERIV has a coefficient value of -0.0344705 with p-value of 0.0229, indicating that the purpose of financial derivative use does not have a significant effect when measured in terms of cash tax paid. DERIV has a coefficient value of −0.0388 with p-value 0.072 when measured with FSETR. This result is consistent with the CUETR result, in which the purpose of financial derivatives utilization significantly affects the level of tax avoidance.

In contrast with the test results using CUETR and FSETR, DERIV does not affect tax avoidance when measured in terms of cash tax paid in the year of observation (CAETR). This might be because a company's cash tax paid is calculated based on its annual tax return from the previous year. There is also the possibility of a company having received tax assessment letters or appeal verdicts that affected its cash tax paid. To find out more about the effects of the purpose of financial derivatives utilization on CAETR, research carried out using longer-term observation data to reveal changes from period to period is needed.

The test results show that hypothesis 1 can be accepted, and that companies that use derivatives for speculation have higher levels of tax avoidance than companies who use them for effective hedging. This result is consistent with Donohoe[4] who showed that companies using derivative instruments for speculative/ineffective hedging had a greater decline in ETR than companies using it for effective hedging.

In Model 2, which is used to test the second hypothesis, H2, corporate governance (GOV) is added as a moderating variable between DERIV and CTA. The results of the Model 2 regression are presented in Table 5. The t-test statistics for the DERIVxGOV variable produces p-values of 0.1325, 0.177, and 0.1145 with coefficients of -

0.0551, 0.0685, and 0.0539 respectively for CUETR, CAETR, and FSETR. These results indicate that corporate governance does not significantly affect the positive relationship between the purpose of financial derivatives utilization and the level of tax avoidance. Good corporate governance is not proven to be able to reduce the differences in the level of tax avoidance between companies that use derivatives as speculation and those that use it as effective hedging, so the second hypothesis must be rejected.

Table.3. Results of Model 1 Regressions

$CTA_i = \alpha_0 + \alpha_1 DERIV_i + \alpha_2 SIZE_i + \alpha_3 ROA_i + \alpha_4 LEV_i + \alpha_5 CAPINT_i + \alpha_6 Y2013_i + \alpha_7 Y2014_i + \varepsilon_i$

H1: Companies that use derivatives for speculation have higher levels of tax avoidance than those that use it for hedging.

Variables	Sign (+/-)	CUETR		CAETR		FSETR	
		α	p-value	α	p-value	α	p-value
DERIV	-	-0.06	0.01**	-0.03	0.22	-0.03	0.07*
SIZE	+/-	0.00	0.96	0.00	0.58	0.00	0.64
ROA	-	-0.12	0.05*	-0.27	0.0***	-0.11	0.02**
LEV	+/-	-0.07	0.37	-0.14	0.27	0.13	0.05**
CAPINT	+	0.03	0.24	0.04	0.23	0.04	0.14
Y2013	+	0.06	0.04**	0.08	0.03**	0.04	0.06*
Y2014	-	-0.03	0.17	0.00	0.41	-0.00	0.42
_cons		0.31	0.19	0.20	0.29	0.07	0.38
Number of obs.	103	Prop >F	0.00	Prop >F	0.03	Prop >F	0.00
		R^2	0.17	R^2	0.11	R^2	0.13

***Significant at the level α=1% ** Significant at the level α= 5% * Significant at the level α= 10%

Table.4. Results of Model 2 Regressions

$CTA_i = \alpha_0 + \alpha_1 DERIV_i + \alpha_2 DERIVxGOV_i + \alpha_3 GOV_i + \alpha_4 SIZE_i + \alpha_5 ROA_i + \alpha_6 LEV_i + \alpha_7 CAPINT_i + \alpha_8 Y2013_i + \alpha_9 Y2014_i + \varepsilon_i$

H2: Good corporate governance can reduce the difference in tax avoidance level between companies that use derivatives for speculation and those that use them as hedging.

Variables	Sign (+/-)	CUETR		CAETR		FSETR	
		α	p-value	α	p-value	α	p-value
DERIV	-	-0.06	0.01**	-0.03	0.23	-0.03	0.06*
DERIVxGOV	+	0.05	0.13	0.06	0.17	0.05	0.11
GOV	+	0.03	0.05*	0.03	0.20	0.00	0.43
SIZE	+/-	-0.00	0.62	0.00	0.96	0.00	0.80
ROA	-	-0.17	0.0***	-0.32	0.0***	-0.12	0.01**
LEV	+/-	-0.06	0.39	-0.14	0.27	0.12	0.05*
CAPINT	+	0.03	0.22	0.05	0.23	0.03	0.18
Y2013	+	0.06	0.04**	0.08	0.04**	0.05	0.06**
Y2014	-	-0.03	0.13	0.00	0.46	-0.00	0.39
_cons		0.50	0.08	0.39	0.17	0.12	0.32
Number of obs.	103	Prop >F	0.00	Prop >F	0.00	Prop >F	0.01
		R^2	0.22	R^2	0.14	R^2	0.15

***Significant at the level α=1% ** Significant at the level α= 5% * Significant at the level α= 10%

CUETR: current ETR; CAETR: cash ETR; FSETR: financial statement ETR; DERIV: financial derivatives purpose; GOV: corporate governance score; SIZE: company size; ROA: return on assets; LEV: leverage; CAPINT: capital intensity; Y2013: year dummy 2013; Y2014: year dummy 2014.

The results of a survey carried out by prior research[17] shows that the main reason a company uses derivatives is as a risk management tool. Moreover, given the complexity of accounting treatment and transactions, such use is less popular as a tax avoidance tool. Companies tend to use easier tools and are less supervised by the tax authorities. In the case of Indonesia, this theory is in accordance with Oktavia and Martani[6] who show that there is no significant difference in tax avoidance level between financial derivatives users and non-users. So it is very possible that this is the reason why the current corporate governance mechanism does not give more attention and intensive monitoring regarding the use of derivative instruments for the avoidance of tax.

5. CONCLUSION

This research concludes that companies that use derivatives for speculative purposes exhibit a higher level of tax avoidance than effective hedger companies. It also provides empirical evidence that the implementation of corporate governance is not proven to be able to reduce the differences in levels of tax avoidance between speculators and effective hedgers. The results of this research are expected to become inputs for regulators in drafting regulations related to the use of derivatives instruments, particularly in Indonesia which lacks such specific regulations.

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