THE IMPACT OF THIN CAPITALIZATION RULES ON CAPITAL STRUCTURE AND TAX AVOIDANCE

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Abstract

This study aims to examine the effect of the thin capitalization rules on capital structure (leverage) and tax avoidance. This is quantitative research using the difference-in-difference (DID) method, with multiple linear regression models. The sample used in this research is companies listed on the Indonesia Stock Exchange (IDX). The type of data used in this study is secondary data in the form of financial statements from 2013 up to 2018. The sample selection using the purposive sampling method with the number of samples amounted to 804 observations (firm-year). The regression method employs panel data with a period of six years (2013 to 2018). The results show that the thin capitalization rules reduced the leverage of companies with high and low debt-to-equity ratio (*DER*). Companies with high *DER* experience a decrease in leverage 2.3 times greater than companies with low *DER*. The results also show that the thin capitalization rules do not affect tax avoidance for companies with high and low *DER*. This research contributes to providing improvement in tax provisions. In practice, it provides recommendations to the Indonesian Tax Authority (ITA) to revise PMK-169/PMK.010/2015 and that ITA should consider using the best practice suggested by the Organization for Economic Co-operation and Development (OECD) in conducting interest limitation (i.e., the fixed ratio rule).

Keywords: Capital Structure, Tax Avoidance, Thin Capitalization, Thin Capitalization Rule

1. INTRODUCTION

This study attempts to investigate the impact of the thin capitalization rules on capital structure and tax avoidance. Tax revenues play an important role in Indonesia. In 2020, tax revenue amounted to 65.5% of the total state revenue and grants. However, tax avoidance through base erosion and profit shifting decreased the tax revenue and can cause serious harm to our nation, i.e., development is hampered. Tax avoidance in Indonesia is indicated by unsatisfactory tax revenue performance for the last ten years. Another indication of tax avoidance is the low tax ratio of Indonesia for the last ten years. The ratio is used to assess the level of taxpayer's compliance and is an indicator of a country's fiscal resilience (Ministry of Finance of the Republic of Indonesia, 2015). Indonesia's tax ratio is low compared to other countries in Association of Southeast Asian Nations (ASEAN) and Asia (Falbo & Firmansyah, 2018).

Cobham and Janský (2018) estimated a loss of US$500 billion per year globally of tax avoidance. The Tax Justice Network estimated that Indonesia losses US$4.86 billion per year due to tax avoidance, US$4.78 billion from corporate taxpayers and US$78.83 million from individual taxpayers (Santoso, 2020). An example of a scheme to avoid tax is by choosing debt over capital. Debt accrues interest, capital leads to the dividend. For taxpayers, interest gives more advantage instead of the dividend. This occurs since Indonesia's Income Tax Law, Article 6 paragraph 1, stated that interest is a deductible expense. Meanwhile, a dividend, stated in Article 9 paragraph 1, is a non-deductible expense. The advantage of using debt over capital is known as debt tax shield.

Utilization of the debt tax shield is carried out by choosing debt financing over capital in order to make the company's debt portion is bigger than capital (known as thin capitalization). The use of loan instruments as a source of funding is beneficial for companies to reduce the cost of capital (Darussalam & Septriadi, 2017). To combat tax avoidance, OECD (the Organization for Economic Co-operation and Development) established BEPS Framework consists of 15 (fifteen) BEPS Action. BEPS Action 4, Limitation on Interest Deductions, aimed specifically to prevent excessive interest deduction.

Currently, 135 countries are committed to implementing the OECD BEPS Framework, including Indonesia (Fiscal Policy Agency, Ministry of Finance of the Republic of Indonesia, n.d.). Indonesia implements BEPS Action 4 by legislating the Ministry of Finance Decree, PMK-169/PMK.010/2015 (also known as thin capitalization rules). In contrast, the best practice suggested by OECD to combat excessive interest deduction is to limit the amount of interest by a certain percentage of the profit (also called as fixed ratio rule). There have been many studies attempting to identify the effectiveness of the thin capitalization rule. The pioneering research on the thin capitalization rule in Indonesia is Ramadhan, Frandyanto, and Riandoko (2017) which conclude that the thin capitalization rule significantly affected companies' leverage in both the sample group with debt-to-equity ratio (*DER*) above 4:1 and debt-to-equity ratio below 4:1. However, this research is limited due to time constraints and the sample is only 76 publicity-listed Indonesian companies for the 2015 and 2016 years.

So far, there have not been many studies in Indonesia that discuss the impact of the thin capitalization rule on tax avoidance. As we know, the main purpose of the thin capitalization rules is to combat tax avoidance, not to regulate capital structure. Therefore, this research will elaborate on both capital structure and tax avoidance to evaluate the effectiveness of one of the specific anti-avoidance rule (SAAR) in Indonesia, specifically the thin capitalization rules.

This study elaborates a novel investigation in examining the impact of the thin capitalization rules on capital structure and tax avoidance. This paper gives a broad view of whether the thin capitalization rules have properly been implemented or not to fight tax avoidance. However, we found that the impact of thin capitalization rules showed two different results. First, it has succeeded to lower leverage conducted by companies both with high and low *DER*. On, the other hand the policy failed to reduce tax avoidance actions for both high and low *DER* companies. Indonesian Tax Authority should reconsider using the best practice suggested by the OECD, *viz.* the fixed ratio rule.

The paper is structured as follows. Section 2 presents the contemporary thin capitalization literature and research hypothesis. Section 3 elaborates the research method including the data used. The results will be described in Section 4. Next, Section 5 presents discussion of each hypothesis. Conclusion, limitations and suggestions will be mentioned in Section 6.

2. LITERATURE REVIEW

The thin capitalization rule in Indonesia is stipulated in PMK-169/PMK.010/2015 and PER-25/PJ/2017 (Indonesian Tax Authority). Indonesia applies debt limitation, ratio, which limits maximum debt: capital ratio to 4:1. This means that the ratio of debt-to-capital which interest can be deducted for the taxation purpose is limited to 4:1. The residual interest expense arising from the taxpayer's debt cannot be used as a deductible expense for taxation purposes and a fiscal correction must be made. PMK-169/PMK.010/2015 also regulates taxpayers' transactions with related parties. Apart from having to comply with the 4:1 ratio, taxpayers must also comply with the arm's length principle.

Prosser and Murray (2011) stated that tax avoidance is part of tax planning. Tax planning becomes tax evasion if taxpayers try to seek tax advantages by exploiting loopholes in tax law. Brown (2012) stated that tax avoidance is an action that is carried out by arranging a transaction so that the taxpayer can obtain tax benefits or reductions in a way that is not desired by policymakers. From the statement above, we can conclude that tax avoidance is an act of a taxpayer to reduce the tax that must be paid by exploiting loopholes in taxation regulations and contrary to the purpose of the regulators, and is legal. Tax avoidance can be driven by management skills, tax planning, tax aggressiveness, tax sheltering and tax evasion (Sudibyo & Jianfu, 2016). Tax avoidance can be also defined as a company's act to obtain tax reduction

through the existing rules (Brodzka, Biernacki, & Chodorek, 2017). Tax avoidance also appears when a firm conduct merger and acquisitions occur (Duarte & Barros, 2018).

Based on the agency theory introduced by Jensen and Meckling (1976), there is asymmetric information between agents (managers) and principals (shareholders). Managers tend to manipulate financial statements to avoid tax. The less tax the firm pays, the more profitable the firm, and the more incentives the managers get. Manipulation by managers can occur because of the asymmetric information between the agent and the principal (Falbo & Firmansyah, 2018).

The trade-off theory put forward by Modigliani and Miller (1963) states the value of the company with debt financing is the same as the value of the company without debt financing plus the tax savings due to debt interest. The cost of capital will increase with the increase of debt, but the tax savings will be greater than the decrease in value due to the increase in the cost of capital (Modigliani & Miller, 1963).

Brealey and Myers (2003) reveal that financial managers often think that the choice between debt or equity is a trade-off between the debt tax shield and the cost of financial distress. Managers must choose a debt ratio that maximizes firm value. Based on the trade-off theory, the company's capital structure must choose a targeted debt ratio, which maximizes the debt tax shield and minimizes debt-related bankruptcy costs.

There are several studies investigating the thin capitalization rules. Blouin, Huizinga, Laeven, and Nicodeme (2014) examine companies affiliated with multinational companies in the United States from 54 countries from 1982 up to 2004. The test results show that the thin capitalization rule causes changes in the capital structure of multinational companies and affects interest expense and the firm's value. Carrizosa, Gaertner, and Lynch (2020) examined TCJA Interest Limitation in the United States with a sample of 257 public listed companies from 2014 to 2018 with the conclusion of the limitation of interest significantly affects the reduction in corporate leverage. Lei (2020) researched 224 companies registered in China from 2002 to 2017. Lei (2020) examined the effect of the tax shield effect on companies' capital structure. The result showed that the capital structure of Chinese companies has a positive correlation with the debt tax shield effect.

Research in Indonesia are conducted by Ramadhan et al. (2017) who examined 69 companies listed on the Indonesia Stock Exchange (IDX) from 2015 to 2016 and divided the sample into two groups, that is companies with high *DER* (more than 4:1) and companies with low *DER* (less than 4:1). The result shows that the thin capitalization rule had a significant effect on the leverage (debt-to-equity ratio) of companies, both in companies with high and low leverage. On the other hand, Jatmiko and Husodo (2018) examined tax returns from 2010 to 2017. The proxies used for the capital structure variable are debt to total capital and related party debt to total capital. The results are in line with research conducted by Ramadhan et al. (2017). After the implementation of the thin capitalization rule,

companies reduce the total debt to total capital ratio.

There are several studies conducted to examine the impact of thin capitalization on tax avoidance. Overesch and Wamser (2006) state that the thin capitalization rule in Germany has been applied effectively. The limitation in *DER*, which was implemented in 2001 and 2004, significantly reduces inter-company loans. Overesch and Wamser (2006) used a difference-in-difference (DID) approach to examine the effect of the thin capitalization rule on German inbound investment and corporate tax planning. Taylor and Richardson (2012) examined the effect of thin capitalization on tax avoidance with the results of thin capitalization significantly associated with tax avoidance. Taylor and Richardson (2012) studied two hundred and three (203) Australian companies that were publicly listed during 2006 until 2009.

Research in Indonesia were conducted by Andawiyah, Subeki, and Hakiki (2019), Salwah and Herianti (2019), and Falbo and Firmansyah (2018). Andawiyah et al. (2019) concluded that thin capitalization affects tax avoidance carried out by ISSI companies. The study conducted by Salwah and Herianti (2019) also supports Taylor and Richardson's (2012) conclusions with the results of thin capitalization having a negative effect on tax avoidance. After the implementation of regulation regarding the debt-to-equity ratio, companies' *DER* are lower, thereby reducing tax avoidance (Salwah & Herianti, 2019). Falbo and Firmansyah (2018) researched manufacturing companies listed on the Indonesia Stock Exchange from 2013 to 2015 showed that thin capitalization has a positive effect on tax avoidance. Contrary to the results of previous studies described above, research conducted by Haryanti, Amalia, and Suprapti (2020) states that thin capitalization has no impact on tax avoidance. Haryanti et al. (2020) researched multinational companies listed on the Indonesia Stock Exchange from 2015 to 2017.

Two qualitative studies discuss limitations on interest deduction in Indonesia. The two studies conducted by Kurniawan (2018) and Ismah and Ningrum (2020) state that Indonesia is better off limiting interest deduction according to the best practice suggested by the OECD, namely the fixed ratio rule. Zaina (2017) investigated 301 companies listed on the IDX (2013 to 2016). The results show that the implementation of the thin capitalization rule only affects the funding decisions of high *DER* companies and does not affect the funding decisions of low *DER* companies. The results also showed that the thin capitalization rule does not affect tax avoidance, both in high and low *DER* companies.

Based on the literature review and previous research above, we develop the following hypothesis:

H1: Thin capitalization rule is associated with the leverage of companies with high DER.

H2: Thin capitalization rule is associated with the leverage of companies with low DER.

H3: Thin capitalization rule is associated with the tax avoidance of companies with high DER.

H4: Thin capitalization rule is associated with the tax avoidance of companies with high DER.

3. RESEARCH METHOD

This research uses quantitative research with multiple linear regression models, difference-in-difference method. The difference-in-difference method is a statistical technique used in econometrics to evaluate the impact of a certain public policy. The research model used is adopted from the study conducted by Zaina (2017) with some adjustments. A control variable according to Zaina (2017), which is multinational is not used in this study. The first model that examines the impact of the thin capitalization rule on capital structure is:

$$DEBT_{it} = \alpha_1 + \beta_1 POST_{it} + \beta_2 TREATED1_{it} + \beta_3 TREATED2_{it} + \beta_4 POSTTREATED1_{it} + \beta_5 POSTTREATED2_{it} + \beta_6 RISK_{it} + \beta_7 TANG_{it} + \beta_8 SIZE_{it} + \beta_9 PROF_{it} + \varepsilon_{it} \tag{1}$$

The second model that examines the impact of the thin capitalization rule on tax avoidance is:

$$CASHETR_{it} = \alpha_1 + \beta_1 POST_{it} + \beta_2 TREATED1_{it} + \beta_3 TREATED2_{it} + \beta_4 POSTTREATED1_{it} + \beta_5 POSTTREATED2_{it} + \beta_6 CINT_{it} + \beta_7 INVINT_{it} + \beta_8 SIZE_{it} + \beta_9 PROF_{it} + \varepsilon_{it} \tag{2}$$

This study uses secondary data with balanced data panel analysis. The sample used in this study includes all companies listed on the Indonesia Stock Exchange from 2013 to 2018. Data are sourced from companies' financial statements obtained through www.idx.co.id. The sample selection process using the purposive sampling method is shown in Table 1.

Table 1. Sample selection process

Description	Total
Companies listed in IDX in 2013, 2014, 2015, 2016, 2017, and 2018	458
Companies that are excluded from the imposition of PMK-169/PMK.010/2015	131
Companies with negative income before tax	133
Companies with negative *CASHETR*	10
Companies with negative equity	1
Companies with bookkeeping of US$	23
Companies with incomplete data	26
Total sample (firms)	**134**
Year	6
Total observation (firm-year)	**804**

Source: Compiled by the authors.

Companies with negative income before tax, *CASHETR*, and equity are eliminated because they are irrelevant to this research and may bias the results. Companies with bookkeeping of US$ are eliminated because there may be differences in value when companies use translation or remeasurement methods in preparing financial statements.

4. RESULTS

This research uses descriptive statistics and inferential statistics. Descriptive statistics are used to analyze data by describing the collected data as it is without intending to make generalized conclusions or generalizations (Sugiyono, 2016). Inferential statistics or inductive statistics are statistics that provide rules or methods that can be used to make predictions, estimations, and general conclusions from a set of sample data (Bungin, 2013). Table 2 below presents a summary of the descriptive statistical values of each variable.

Table 2. Descriptive statistics

Variable	N	Mean	Median	Modus	Min	Max	Std. dev
CASHETR	804	0.464	0.277	-	0.00000	22.607	1.17
DER	804	0.965	0.729	-	0.00034	5.278	0.86
POST	804	0.500	0.500	1	0.00000	1.000	0.50
TREATED1	804	0.014	0.000	0	0.00000	1.000	0.12
TREATED2	804	0.980	1.000	1	0.00000	1.000	0.14
POSTTREATED1	804	0.005	0.000	0	0.00000	1.000	0.07
POSTTREATED2	804	0.490	0.000	0	0.00000	1.000	0.50
SIZE	804	28.885	28.916	-	22.97276	33.474	1.59
CINT	804	0.274	0.246	-	0.00024	1.000	0.20
INVINT	804	0.185	0.163	-	0.00000	0.712	0.15
PROF	804	0.096	0.075	-	0.00015	0.885	0.10
RISK	804	0.403	0.556	-	-107.32591	17.177	5.70
TANG	804	0.988	1.000	-	0.63054	1.000	0.04

Source: Compiled by the authors.

Based on the table above, the average (mean) of the *CASHETR* variable is 0.464. This shows that on average, companies listed on the IDX pay taxes of 46.4% of earning before tax. This percentage is greater than the corporate income tax rate by the Income Tax Law Article 17 paragraph 1 letter (b), which is 25%. The average *DER* of companies listed on the IDX is 0.96475:1. This indicates that most companies listed on the IDX do not undertake thin capitalization according to the limit regulated by PMK-169/PMK.010/2015, which is 4:1.

In this study, dummy variables are used to determine the coefficient of thin capitalization rule, under the difference-in-difference method.

The statistics descriptive of the dummy variables are presented in Table 3.

Table 3. Descriptive statistics of dummy variables

No	Variable	Dummy 0	Dummy 1	N
1	*POST*	402	402	804
2	*TREATED1*	793	11	804
3	*TREATED2*	16	788	804
4	*POSTTREATED1*	800	4	804
5	*POSTTREATED2*	410	394	804

Source: Compiled by the authors.

In the difference-in-difference method, the samples are divided into two groups, namely

the control group (a group that is *not* affected by the policy) and the treatment group (a group that is affected by the policy). In this study, control groups are a group with *DER* 3.7:1 to 4.1:1. Treatment groups are divided into two, which is *TREATED1* (high *DER*, for companies with *DER* > 4.1:1) and *TREATED2* (low *DER*, for companies with *DER* < 3.7:1). The statistics descriptive of the control group and the treatments group are presented in Table 4.

Table 4. Descriptive statistics of control group and treatments group

	Pre-treatment	Post-treatment	Total
Control	1	4	5
TREATED1 (High *DER*)	7	4	11
TREATED2 (Low *DER*)	392	392	784
Total	400	400	800

Source: Compiled by the authors.

5. DISCUSSION

5.1. The impact of thin capitalization rule on capital structure

Based on the results of regression testing using a robust fixed-effect model, the equations formed in this study are as follows.

$$DEBT_{it} = 2.534864 + 0.7847896POST_{it} + 1.808661TREATED1_{it} - 0.4635092TREATED2_{it} - 2.061236POSTTREATED1_{it} - 0.8905391POSTTREATED2_{it} + 0.0024036RISK_{it} + 0.1072049TANG_{it} - 0.0371258SIZE_{it} - 1.258506PROF_{it} + \varepsilon_{it}$$

The regression result is presented in Table 5.

Table 5. Regression result of Model 1

Variable	Standard error	Coefficient	Prob.
POST	0.3888162	0.7847896	0.046
TREATED1	0.3901	1.808661	0.000
TREATED2	0.0390354	-0.4635092	0.000
POSTTREATED1	0.6121541	-2.061236	0.001
POSTTREATED2	0.3837315	-0.8905391	0.022
SIZE	0.0357354	-0.0371258	0.301
PROF	0.3908559	-1.258506	0.002
TANG	0.6147759	0.1072049	0.862
RISK	0.0035085	0.0024036	0.494
cons	1.214124	2.534864	0.039
R-squared			0.2766
Prob > F			0.0000

Source: Compiled by the authors.

5.2. The impact of thin capitalization rule on tax avoidance

Based on the results of regression testing using a random-effect model, the equations formed in this study are as follows.

$$CASHETR_{it} = 0.5149024 + 0.1476854POST_{it} + 0.0023739TREATED1_{it} + 0.0380862TREATED2_{it} - 0.1083885POSTTREATED1_{it} - 0.1580692POSTTREATED2_{it} + 0.1197679CINT_{it} + 0.1674973INVINT_{it} - 0.0062655SIZE_{it} - 1.006428PROF_{it} + \varepsilon_{it}$$

The regression result is presented in Table 6.

Table 6. Regression result of Model 2

Variable	Standard error	Coefficient	Prob.
POST	0.1805277	0.1476854	0.413
TREATED1	0.1736978	0.0023739	0.989
TREATED2	0.1609091	0.0380862	0.813
POSTTREATED1	0.2185848	-0.1083885	0.620
POSTTREATED2	0.1807334	-0.1580692	0.382
SIZE	0.0067633	-0.0062655	0.354
CINT	0.0490871	0.1197679	0.015
INVINT	0.0700784	0.1674973	0.017
PROF	0.091206	-1.006428	0.000
cons	0.2549924	0.5149024	0.043
R-squared			0.1200
Prob > F			0.0000

Source: Compiled by the authors.

The result of Model 1 shows that the thin capitalization rule has a negative effect on companies' *DER*, both companies with high *DER* (*POSTTREATED1*) and companies with low *DER* (*POSTTREATED2*). This can be seen from the result of the regression test with the F-test with a Prob > F value of 0.0000 (meaning that the results are worth analyzing). The R-squared of this study is 27.66%, which means that the independent variables in the study can explain the dependent variable by 27.66%. In the partial significance test (t-test), it can be seen that P > |z| from *POSTTREATED1* and *POSTTREATED2* are 0.001 and 0.022, which means that *POSTTREATED1* and *POSTTREATED2* respectively have a significant effect on *DER*. The values of the *POSTTREATED1* and *POSTTREATED2* coefficients are -2.061236 and -0.8905391, respectively, which means that the thin capitalization rule significantly reduces companies' *DER*, both companies with high and low *DER*. There is a different magnitude of *DER* reduction in high and low *DER* companies. Companies with high *DER* experience a decrease of 2.3 times greater than companies with low *DER*. The result of the Model 1 study is in line with the results of previous studies, including research conducted by Lei (2020), Carrizosa et al. (2020), Blouin et al. (2014), Ramadhan et al. (2017), and Jatmiko and Husodo (2018), which states that the thin capitalization rule affects companies' capital structure. Slightly different from the results of this study, Zaina's (2017) research shows that the thin capitalization rule affects the capital structure of companies with high *DER*, but does not affect the capital structure of companies with low *DER*.

The result of Model 2 shows the thin capitalization rule does not affect corporate tax avoidance, both companies with high *DER* and low *DER*. This is concluded by the results of the partial significance test (t-test) which P |z| *POSTTREATED1* (high *DER*) and P |z| *POSTTREATED2* (low *DER*) are 0.62 and 0.382, which means that the thin capitalization rule does not affect corporate tax avoidance with high or low *DER*. The results of the Model 2 study are supported by Zaina's (2017) research, which stated that the thin capitalization rule does not affect tax avoidance of companies listed on the IDX, both companies with high *DER* and low *DER*. The result of the Model 2 study is also supported by Haryanti et al. (2020) which states that thin capitalization does not affect tax avoidance. However, there are several previous studies with conflicting results, including research conducted by Andawiyah et al. (2019), Taylor and

Richardson (2012), Falbo and Firmansyah (2018), and Salwah and Herianti (2019) which state that thin capitalization affects tax avoidance. The difference might happen due to differences in the proxies of tax avoidance variables and differences in the objects of observation.

The thin capitalization rule, as outlined in PMK-169/PMK.010/2015 is one of the specific anti-avoidance rule promulgated by the Republic of Indonesia Government to combat BEPS. PMK-169/PMK.010/2015 limits the ratio of interest expense that can be deducted from taxable income for taxation purposes by limiting the *DER* of 4:1. The main purpose of this regulation is to limit interest deduction.

The thin capitalization rule is not the best practice suggested by the OECD. On contrary, the OECD suggests interest limitation in the form of a fixed ratio rule. The results of this study support the qualitative research conducted by Haryanti et al. (2020) and Kurniawan (2018) which states that the fixed ratio rule is better than the thin capitalization rule. This is proven by the regression results which are the thin capitalization rule which does not affect tax avoidance of companies listed on the IDX.

The decrease in *DER* which is not followed by the decrease in tax avoidance indicates that companies listed on the IDX may adopt tax avoidance methods other than thin capitalization after the existence of PMK-169/PMK.010/2015. The capital structure theory developed by Modigliani and Miller (1963) and Graham and Tucker (2006) states that when there are taxes, companies can increase firm value by utilizing the tax shield by increasing leverage. Companies will tend to enlarge their debt structure to obtain a bigger debt tax shield and a lower cost of capital. The trade-off theory by Brealey and Myers (2003) stated that the level of debt will be maximized if the amount of tax saved through the tax shield is proportional to the cost of financial distress that might arise. Based on these theories, limiting the debt ratio of 4:1 reduces the debt-to-equity ratio because companies no longer benefit from the debt tax shield for high *DER*. Companies tend to reduce the debt because the tax shield is reduced and there is a trade-off of this debt, that is the risk of bankruptcy and bankruptcy costs.

Regarding capital structure, the thin capitalization rules not only affect companies with a *DER* of more than 4:1, with a reduced debt tax shield but also reduce the leverage of companies with *DER* less than 4:1. The difference is that the intensity of the decrease in leverage in high *DER* companies is 2.3 times that of low *DER* companies. From these results, it can be concluded that the average companies with a low *DER* do not take advantage of the debt tax shield. Likely, this is due to the consideration of the costs that are greater than the benefits when companies choose to use debt to get tax advantages. However, it should be considered that many companies are not listed on the IDX that might conduct thin capitalization. This makes the results of this study are less representative of all phenomena that occur in Indonesia. Further research is needed to evaluate the effectiveness of PMK-169/PMK.010/2015 to combat tax avoidance.

6. CONCLUSION

Based on the results above, we may conclude that the thin capitalization rules affect the leverage of companies with high and low *DER*. The thin capitalization rules reduce the leverage of companies with high *DER* and low *DER*. The thin capitalization rules limit the debt ratio compared to capital whose interest expense may be deducted for purposes of 4:1. This creates limitations for taxpayers to take advantage of the debt tax shield. With the limited use of the debt tax shield, Firms with high *DER* choose to lower their debt-to-equity ratio. On the other hand, this shows that companies with low *DER* do not see the thin capitalization rule as a gap for taking advantage of the debt tax shield, by increasing the ratio of debt-to-equity ratio.

Meanwhile, the thin capitalization rule does not affect tax avoidance for companies with high and low *DER*. These conclusions mean that the thin capitalization rule only affects the *DER* of companies, but not the tax avoidance. This result is not in line with the goal of Indonesian thin capitalization rules as specific anti-avoidance rule, which should reduce corporate tax avoidance which utilizes the debt tax shield through thin capitalization. This matter is likely to occur because high *DER* companies do tax avoidance in other ways after the rules are enacted. In addition, companies with low *DER* do not consider the thin capitalization rule as a loophole to do tax avoidance.

This study has several limitations. This study uses listed companies on the Indonesia Stock Exchange. Because it is limited to companies listed on the IDX, the sample population of this study (134) is very small compared to the number of registered corporate taxpayers in Indonesia, which is around 1.47 million in 2019 (Wildan, 2020). In addition, the proxy of tax avoidance is limited to cash effective tax rate (ETR). Future studies can use samples that are more representative of the population. For example, companies outside those listed on the IDX. In addition, future studies can also use tax avoidance proxies other than cash ETR, including GAAP ETR, permanent book-tax difference, discretionary permanent book-tax difference, or tax shelters.

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