

# **The Effect of Leverage, Profitability, Sales Growth, and Thin Capitalization Towards Tax Avoidance on Service Companies in The Trade, Service, and Investment Sector Listed on The Indonesia Stock Exchange**

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## **Abstract**

The purpose of this study is to analyze the effect of leverage, profitability, sales growth, and thin capitalization towards tax avoidance. The population used in this study is services companies in the trade, service, and investment sector listed on the Indonesia Stock Exchange. The sampling technique used in this study is purposive sampling with the help of Eviews 9 and data panel regression is used to test the hypothesis. There are 90 samples used in this study that consist of 30 companies from 2016-2018. The formula used to measure tax avoidance is the cash effective tax rate (CETR). The result of this study is that leverage positively affect tax avoidance, while profitability, sales growth, and thin capitalization has no effect on tax avoidance.

## **Keywords:**

leverage, profitability, sales growth, thin capitalization, tax avoidance

## **1. Introduction**

According to the Law of the Republic of Indonesia Number 28 of 2007, the definition of tax is a mandatory contribution to the state that is owed by an individual or a compelling entity based on law, without receiving direct compensation and being used for the state's needs for the greatest prosperity of the people. The tax has two functions, namely the budget function and the regularend function. In Indonesia, taxpayers use the self-assessment system method for tax reporting.

For companies, tax is an expense that must be borne after earning a profit. In bearing the burden, companies may manipulate taxable income through tax planning in a legal or illegal manner. Tax planning actions that are carried out legally are called tax avoidance, while in an illegal way it can be called tax evasion.

The independent variable that will be examined is leverage, whether it affects tax avoidance. According to Kasmir (2016), leverage is a ratio used to measure the extent to which a company's assets and capital are financed by debt. This ratio looks at how far the company is financed by debt or external parties with the company's ability as described by capital (equity). (Oktaviyani & Munandar, 2017) research shows that "solvency has a significant and positive effect on tax avoidance".

Another factor that affects tax avoidance is profitability. According to Kashmir (2016), the profitability ratio is a ratio used to assess a company's ability to seek profit. This ratio provides a measure of the level of management effectiveness of a company. According to research by (Irianto & S.Ak, 2017) it is explained that "profitability have a positive and significant effect on tax avoidance, high profitability of the company will be optimal to do tax planning, therefore tax avoidance will be increase".

Sales growth in fact can affect tax avoidance because sales growth is an important role in working capital management. This is proven in the research of Dewinta and Setiawan (2016), showing that sales growth has a positive effect on tax avoidance, which means that the higher sales growth, the higher the tax avoidance activity of a company is because companies with relatively large sales levels will provide opportunities to obtain big profit too. Thin capitalization is another factor that can influence tax avoidance, namely, to minimize or eliminate the tax burden.

This strategy is used by the company by using debt greater than equity in the company's funding sources. This is evident in the research of Falbo and Firmansyah (2018) which explains that thin capitalization has a positive effect on tax avoidance because manufacturing sector companies in Indonesia tend to use debt more than equity to finance their business with the aim of tax avoidance.

## 1.1 Objectives

Based on the description described above, it can be seen that the importance of this study is to determine the effect of leverage, profitability, sales growth and thin capitalization on tax avoidance. Therefore, the problems that can be formulated are as follows:

1. Does leverage affect tax avoidance?
2. Does profitability affect tax avoidance?
3. Does sales growth affect tax avoidance?
4. Does thin capitalization affect on tax avoidance?

## 2. Literature Review

### 2.1 Tax Avoidance

According to Selviani et al (2019) tax avoidance is a legal tax avoidance effort that does not violate the taxation regulations carried out by taxpayers by trying to reduce the amount of tax by looking for regulatory weaknesses (loopholes). Tax avoidance practices carried out by the management of a company are solely to minimize tax obligations that are considered legal, making companies have the tendency to take various ways to reduce their tax burden and increase the company's cash flow. This is in line with research according to Purwanti and Sugiyarti (2017), tax avoidance is an effort to reduce taxes, but still comply with the provisions of taxation regulations, such as taking advantage of the allowable exemptions and deductions as well as postponing taxes that have not been regulated in the applicable tax regulations. The Indonesian government has made various regulations to prevent tax evasion. One of them is related to transfer pricing, namely regarding the application of fairness and business normality principles in transactions between taxpayers and parties who have a special relationship as stipulated in the Regulation of the Director General of Taxes Number: PER-32 / PJ / 2011.

The fiscal affairs committee of the Organization for Economic Cooperation and Development (OECD) stated that there are three characteristics of tax avoidance according to Suandy (2017), namely:

1. There is an artificial element in which various regulations seem to be contained, but they are not, and this is done because of the absence of tax factors.
2. Such schemes often take advantage of loopholes from legislation or impose legal provisions for various purposes, even though that is not what legislators really mean.
3. Confidentiality is also a form of this scheme where generally the consultants show the tools or ways to do tax evasion on the condition that the taxpayer keeps it as confidential as possible.

## 2.2 Leverage

According to Kasmir (2016), leverage is a ratio used to measure the extent to which a company's assets and capital are financed by debt. This ratio looks at how far the company is financed by debt or external parties with the company's ability as described by capital (equity). The leverage ratio shows the risk faced by the company. In article 6 paragraph (1) a of Law Number 17 of 2000 which states that interest costs can be an element of deduction from taxable income. The possibility of using a loan by the company is what causes an increase in debt and debt loads to cause interest expenses that reduce the tax burden paid, so that's when tax avoidance is identified. Research with similar variables was conducted by Selviani et al (2019), where leverage has a positive effect on tax avoidance. The company actually uses debt for operational activities so that the company's profits will increase.

## 2.3 Profitability

Profitability is an indicator of management performance in managing the company's wealth that is shown through profit. According to Kasmir (2016), the profitability ratio is a ratio used to assess a company's ability to seek profit. This ratio provides a measure of the level of management effectiveness of a company. When the profits obtained by a company grow, the amount of income tax will increase according to the increase in profits so that the company is likely to do tax avoidance to avoid increasing the amount of tax burden. This is in line with the results of research by Dewinta and Setiawan (2016) that profitability has a positive effect on tax avoidance, which means that the higher the profitability, the higher the level of tax avoidance of a company due to the flexibility to take advantage of loopholes in the tax burden. Agent (management) in this case wants an increase in profit, in contrast to the principal who wants to reduce tax costs by doing tax planning in the form of tax avoidance.

## 2.4 Sales Growth

According to Dewinta and Setiawan (2016) sales growth has an important role in working capital management. Measurement of sales growth can describe the good or bad level of sales growth of a company. Companies can predict how much profit will be obtained by the amount of sales growth. An increase in sales growth will tend to make the company get a large profit, and therefore the company will tend to practice tax avoidance. Purwanti and Sugiyarti (2017) have studied sales growth research on tax avoidance. Sales growth has a significant effect on tax avoidance because the greater the sales, the greater the income or profit obtained and the greater the profit, the greater the tax burden borne by the company.

## 2.5 Thin Capitalization

According to Khomsatun and Martani (2015) thin capitalization is the formation of a company's capital structure with a combination of large debt ownership and minimal or small capital. Companies can reduce interest expenses so that taxable income will be smaller. The reduction that is made can cause a macro effect in the form of a reduction in the potential for state revenue from taxes. Research with this variable was conducted by Falbo and Firmansyah (2018), wherein thin capitalization has a positive effect on tax avoidance. Manufacturing companies in Indonesia tend to use debt more than equity to fund their business with the aim of tax avoidance. Company managers choose actions that are contrary to the interests of the owners, thereby indicating agency conflict.

Based on the description above, the hypotheses of this study can be formulated as follows:

- H<sub>1</sub>: Leverage has an effect towards tax avoidance
- H<sub>2</sub>: Profitability has an effect towards tax avoidance
- H<sub>3</sub>: Sales growth has an effect towards tax avoidance
- H<sub>4</sub>: Thin Capitalization has an effect towards tax avoidance

## 3. Methods

### 3.1. Data Analysis Method

The method of data analysis in this study used descriptive statistical tests, classical assumption tests, panel data regression tests, and hypothesis testing. The classic assumption test is conducted to test the feasibility of the regression model that will be used in a study, consisting of a normality test, a multicollinearity test, a heteroskedasticity test, and an autocorrelation test. The panel data regression test consists of the chow test, the hausman test, and the lagrange multiplier test. The last method is hypothesis testing, consisting of the t test, F test, and the coefficient of determination (R<sup>2</sup>). The results of these statistical tests will be used to see the level of significance of the effect of leverage, profitability, sales growth, and thin capitalization on corporate tax avoidance. The tool used to process data in this study is the Eviews version 9 application.

In this study, the regression equation used to determine how strong the influence of the independent variable and the dependent variable can be formulated with the following equation:

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + e$$

Description:		$X_3$	= Sales growth
Y	= Tax avoidance	$X_4$	= Thin capitalization
$\alpha$	= Constant	$\beta_1, \beta_2, \beta_3, \beta_4$	= Regression coefficient
$X_1$	= Leverage	$e$	= Error
$X_2$	= Profitability		

### 3.2. Operation of Variables

#### a. Dependent Variable (Y)

In this study, the dependent variable used is tax avoidance. This variable uses the CETR proxy. The cash effective tax rate is formulated as follows:

$$CETR = \frac{Cash\ tax\ paid_{i,t}}{Pretax\ income_{i,t}}$$

#### b. Independent Variables (X)

##### 1. Leverage

Leverage can be calculated through the debt-to-equity ratio (DER) which is formulated:

$$DER = \frac{Total\ Debt}{Total\ Equity}$$

##### 2. Profitability

Profitability can be calculated through the return on assets (ROA) which is formulated:

$$ROA = \frac{Net\ Income\ after\ Taxes}{Total\ Asset}$$

##### 3. Sales Growth

Sales growth can be formulated through:

$$Sales\ Growth = \frac{Current\ Period\ Sales - Prior\ Period\ Sales}{Prior\ Period\ Sales}$$

##### 4. Thin Capitalization

Thin capitalization calculated using the following formula:

$$MAD\ ratio = \frac{Average\ Debt}{SHDA}$$

$$SHDA = (Average\ Total\ Assets - nonIBL) \times 80\%$$

## 4. Data Collection

### 4.1. Population and Sample

The type of approach used in this research is a quantitative approach. The data source used in this study is secondary data. The data used is in the form of annual financial reports of trade, service and investment service companies obtained from the Indonesia Stock Exchange website ([www.idx.co.id](http://www.idx.co.id)) and the company's official website which has been audited and published in 2016-2018. In this study, the sampling technique used is a non-probability sampling technique. The sampling technique used in this study was purposive sampling. According to Sugiyono (2015) purposive sampling is a sampling technique with certain considerations. The criteria used in sampling this research can be formulated as follows:

1. Trade, service, and investment sector service companies listed on the Indonesia Stock Exchange in 2016-2018
2. Trade, service and investment sector service companies that consistently report audited annual financial statements in 2016-2018.
3. Trade, service and investment sector service companies that use the rupiah currency as reporting currency.
4. Trade, service, and investment sector service companies that did not experience consecutive losses during the 2016-2018,
5. Trade, service and investment sector service companies that carry out buying and selling activities online through electronic means based on internet networks.

## 5. Results and Discussion

### 5.1 Descriptive Statistics

According to Sugiyono (2015) descriptive statistics are statistics used to analyze data by describing or describing the data that has been collected as it is without intending to make conclusions that apply to the general or generalizations. The dependent variable used is tax avoidance, while the independent variables are leverage, profitability, sales growth, and thin capitalization.

Based on the results of the descriptive statistical test in the table 1, the following conclusions can be drawn:

1. Tax avoidance (CETR) has a mean value of 0.224692 with a standard deviation of 0.123349. The company with the lowest CETR is Erajaya Swasembada Tbk. with a value of -0.047790 and Pembangunan Jaya Ancol Tbk has the highest CETR with a value of 0.493947.
2. Leverage (LEV) has a mean value of 0.796110 with a standard deviation of 0.692665. Indoritel Makmur Internasional has the lowest leverage with a value of 0.012843 and Midi Utama Indonesia Tbk with the highest value of 4.285809.
3. Profitability (ROA) has a mean value of 0.093274 with a standard deviation of 0.070354. The lowest profitability score is owned by Indoritel Makmur Internasional with a value of 0.015669 and Matahari Department Store Tbk with the highest value of 0.415673.
4. Sales growth (PP) has a mean value of 0.212125 with a standard deviation of 0.568270. The lowest value sales growth is owned by MNC Land Tbk. with a value of -0.169304 and Kresna Graha Investama Tbk. with the highest value of 4.658733.
5. Thin capitalization (MAD) has a mean value of 0.490534 with a standard deviation of 0.190581. Thin capitalization with the lowest value is owned by Indoritel Makmur Internasional with a value of 0.015850 and Midi Utama Indonesia Tbk with the highest value of 1.013518.

Table 1 Descriptive Statistics Test Results

	Y CETR	X1 LEV	X2 ROA	X3 PP	X4 MAD
Mean	0.224692	0.796110	0.093274	0.212125	0.490534
Median	0.224805	0.676083	0.078431	0.079480	0.504211
Maximum	0.493947	4.285809	0.415673	4.658733	1.013518
Minimum	-0.047790	0.012843	0.015669	-0.169304	0.015850
Std. Dev.	0.123349	0.692665	0.070354	0.568270	0.190581
Skewness	0.037363	3.048659	2.250484	5.873597	0.283233
Kurtosis	2.580760	14.38987	9.089343	43.66294	3.189935
Jarque-Bera	0.680049	625.8991	215.0205	6718.019	1.338593
Probability	0.711753	0.000000	0.000000	0.000000	0.512069
Sum	20.22226	71.64989	8.394660	19.09127	44.14809
Sum Sq. Dev.	1.354140	42.70082	0.440520	28.74087	3.232591
Observations	90	90	90	90	90

Source: Output of Eviews 9, 2020

### 5.2. Classic Assumption Test

#### 5.2.1. Normality Test

Normality test in this study was carried out using the Jarque-fallow test. Decision making by comparing the p-value with the significant value ( $\alpha$ ) used is 0.05. If the p-value  $> 0.05$  means that the data is normally distributed. Conversely, if the p-value  $< 0.05$  means that the data is not normally distributed Ghozali (2016).

Based on the results of the normality test in figure 1, it can be seen that the p-value of the sample data is 0.878186, which means that the data is normally distributed, because the p-value is greater than 0.05 ( $0.878186 > 0.05$ ). Data that has been normally distributed so that it can be used as research.

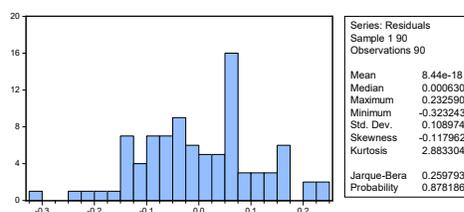


Figure 1. Normality Test Results  
 Source: Eviews 9 output results, 2020

### 5.2.2. Multicollinearity Test

Table 2. Multicollinearity Test Results

	Coefficient	Uncentered	Centered
Variable	Variance	VIF	VIF
X1 LEV	0.001237	9.923725	<b>4.248473</b>
X2 ROA	0.029434	2.896347	<b>1.042807</b>
X3 PP	0.000441	1.163966	<b>1.020213</b>
X4 MAD	0.016746	33.51863	<b>4.353456</b>
c	0.002406	17.41673	NA

Variance Inflation Factors, sample 1 90  
 Source: Eviews 9 output results, 2020

Multicollinearity test is used to determine the presence or absence of linear relationships between independent variables in the regression model. The prerequisite that must be met in the regression model is the absence of multicollinearity. When doing the multicollinearity test on Eviews, it is carried out by looking at the centered VIF (variance inflation factor) value of each variable. If the centered VIF value is  $> 10$  then there is multicollinearity of the independent variables in the study, if the centered VIF value is  $< 10$  then there is no multicollinearity.

Based on the multicollinearity test results in table 2, it is known that the centered VIF value of each variable is  $< 10$ . These results indicate that there is no multicollinearity to the independent variables in the study, so it can be used for further testing.

### 5.2.3. Heteroskedasticity Test

A good regression model is homoscedasticity or heteroskedasticity does not occur. In conducting tests to determine the presence or absence of heteroskedasticity by using the white test and making conclusions seen from the Prob value. Chi-square. If the value for Prob. Chi-square  $> 0.05$  then there is no heteroskedasticity, on the contrary if the value is Prob. Chi-square  $< 0.05$  then heteroskedasticity occurs Ghazali (2016).

Table 3. Heteroskedasticity Test Result

Heteroskedasticity Test: White				
F-statistic	1.794568	Prob. F(4,85)	0.1374	
Obs*R-squared	7.008643	Prob. Chi-Square(4)	<b>0.1354</b>	
Scaled explained	5.886772	Prob. Chi-Square(4)	0.2078	
Test Equation:				
Dependent Variable: RESID^2, sample: 1 90, included observations : 90				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.005045	0.003553	1.420073	0.1592
X1 LEV^2	-0.001252	0.001026	-1.219924	0.2259
X2 ROA^2	-0.058792	0.065855	-0.892751	0.3745
X3 PP^2	0.000584	0.000733	0.796871	0.4277

X4 MAD <sup>2</sup>	0.031360	0.013783	2.275265	0.0254
R-squared	0.077874	Mean dependent var		0.011743
Adjusted R-squared	0.034480	S.D. dependent var		0.016206
S.E. of regression	0.015924	Akaike info criterion		-5.387985
Sum squared resid	0.021555	Schwarz criterion		-5.249107
Log likelihood	247.4593	Hannan-Quinn criter.		-5.331982
F-statistic	1.794568	Durbin-Watson stat		1.414900
Prob(F-statistic)	0.137414			

Source: Eviews 9 output results, 2020

Based on the results of the heteroskedasticity test in table 3, it can be seen that the value Prob. Chi-square of Obs\*R-squared is 0.1354. The Prob. Chi-square from Obs\*R-squared > 0.05 (0.1354 > 0.05), which means that the data in this study did not have a heteroskedasticity problem and could be used for further testing.

### 5.2.4. Autocorrelation Test

Table 4. Autocorrelation Test Result

Breusch-Godfrey Serial Correlation LM Test:				
F-statistic	1.424903	Prob. F(2,83)		0.2464
Obs*R-squared	2.987572	Prob. Chi-Square(2)		<b>0.2245</b>
Test Equation:				
Dependent Variable: RESID, Method: Least Squares				
Date: 05/28/20 Time: 01:43, Sample: 1 90, included observations: 90				
Presample missing value lagged residuals set to zero.				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
X1 LEV	-0.006785	0.035510	-0.191070	0.8489
X2 ROA	0.029901	0.171670	0.174180	0.8621
X3 PP	0.007942	0.021476	0.369802	0.7125
X4 MAD	0.028493	0.130112	0.218986	0.8272
C	-0.013040	0.049418	-0.263878	0.7925
RESID (-1)	0.175412	0.112386	1.560806	0.1224
RESID (-2)	0.045615	0.113651	0.401365	0.6892
R-squared	0.033195	Mean dependent var		8.44E-18
Adjusted R-squared	-0.036694	S.D. dependent var		0.108974
S.E. of regression	0.110955	Akaike info criterion		-1.484790
Sum squared resid	1.021822	Schwarz criterion		-1.290361
Log likelihood	73.81556	Hannan-Quinn criter.		-1.406385
F-statistic	0.474968	Durbin-Watson stat		1.986917
Prob(F-statistic)	0.825128			

Source: Eviews 9 output results, 2020

Based on the results of the autocorrelation test in the table 4, it can be seen that Prob. Chi-square of Obs\*R-squared is 0.2676. Prob. Chi-square of Obs\*R-squared > 0.05 (0.2676 > 0.05) which means that the data in this study do not have autocorrelation problems and can be used for further testing.

### 5.3. Panel Data Regression Model Test

#### 5.3.1. Chow Test

The chow test is conducted to determine the most appropriate model between the common effect model and the fixed effect model that will be used in estimating panel data. To determine whether the model used is a common effect model or a fixed effect model. Conclusions for the chow test by looking at the significance level  $\alpha$  of 0.05 on the probability of the cross-section F.

Table 5. Chow Test

Redundant Fixed Effects Tests, Equation: Untitled, Test cross-section fixed effects				
Effects Test	Statistic	d.f.	Prob.	
Cross-section F	3.904071	(29,56)	<b>0.0000</b>	
Cross-section Chi-square	99.525279	29	0.0000	
Cross-section fixed effects test equation: Dependent Variable: Y_CETR, Method: Panel Least Squares, Sample: 2016 - 2018 Date: 05/28/20 Time: 01:26, Periods included: 3, Cross-sections included: 30				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
X1 LEV	-0.014598	0.035173	-0.415047	0.6792
X2 ROA	0.083094	0.171565	0.484332	0.6294
X3 PP	-0.064014	0.021009	-3.046993	0.0031
X4 MAD	0.260748	0.129405	2.014977	0.0471
C	0.114236	0.049054	2.328809	0.0222
R-squared	0.219500	Mean dependent var	0.224692	
Adjusted R-squared	0.182771	S.D. dependent var	0.123349	
S.E. of regression	0.111509	Akaike info criterion	-1.495476	
Sum squared resid	1.056906	Schwarz criterion	-1.356598	
Log likelihood	72.29641	Hannan-Quinn criter.	-1.439472	
s	5.976150	Durbin-Watson stat	1.587549	
Prob(F-statistic)	0.000275			

Source: Eviews 9 output results, 2020

Based on the results of the chow test in the table 5, it is known that the probability value of the cross-section F shows the result of 0.0000 where the number is smaller than the significance level of 0.05, so  $H_0$  is rejected and  $H_1$  is accepted. The results of the chow test indicate that a more appropriate model to be used in this study uses the fixed effect model.

### 5.3.2. Hausman Test

The hausman test is carried out to compare and determine the most appropriate model among random effect models or fixed effect models in estimating panel data. The conclusion for the hausman test by looking at the significance level of  $\alpha$  is 0.05 on the probability of the cross-section random.

Table 6. Hausman Test Results

Correlated Random Effects - Hausman Test Equation: Untitled, Test cross-section random effects				
Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.	
Cross-section random	21.674719	4	<b>0.0002</b>	
Cross-section random effects test comparisons:				
s	Fixed	Random	Var(Diff.)	Prob.
X1 LEV	0.387042	0.016317	0.013708	0.0015
X2 ROA	-0.590472	-0.070808	0.105631	0.1098
X3 PP	0.010877	-0.029444	0.000205	0.0049
X4 MAD	-0.554678	0.171009	0.058611	0.0027
Cross-section random effects test equation: Dependent Variable: Y_CETR, Method: Panel Least Squares				

Sample: 2016 2018, Periods included: 3				
Total panel (balanced) observations: 90				
Coefficient				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.241421	0.097917	2.465568	0.0168
X1 LEV	0.387042	0.124297	3.113849	0.0029
X2 ROA	-0.590472	0.380850	-1.550405	0.1267
X3 PP	0.010877	0.024531	0.443375	0.6592
X4 MAD	-0.554678	0.282519	-1.963326	0.0546
Effects Specification				
Cross-section fixed (dummy variables)				
R-squared	0.741706	Mean dependent var	0.224692	
Adjusted R-squared	0.589497	S.D. dependent var	0.123349	
S.E. of regression	0.079031	Akaike info criterion	-1.956868	
Sum squared resid	0.349766	Schwarz criterion	-1.012495	
Log likelihood	122.0591	Hannan-Quinn criter.	-1.576041	
F-statistic	4.872950	Durbin-Watson stat	3.229574	
Prob(F-statistic)	0.000000			

Source: Output of Eviews 9, 2020

Based on the results of the hausman test in the table above, it is known that the probability value of the random cross-section shows a result of 0.0002 where the number is smaller than the significance level of 0.05, so  $H_0$  is rejected and  $H_1$  is accepted. The results of the hausman test show that a more appropriate model to be used in this study uses the fixed effect model.

### 5.3.3. Lagrange Multiplier Test

The lagrange multiplier test is performed to compare and determine the most appropriate model among the common effect model or random effect model in estimating panel data. Based on the results of the lagrange multiplier test in the table 7, it is known that the probability value of Breusch-Pagan shows a result of 0.0057 where the number is smaller than the significance level of 0.05, so  $H_0$  is accepted and  $H_1$  is rejected. The results of the lagrange multiplier test show that the more appropriate model to be used in this study is the random effect models

Table 7. Lagrange Multiplier Test

Lagrange Multiplier Tests for Random Effects, Null hypothesis: No effects,  
Alternative hypotheses: Two-sided (Breusch-Pagan) and one-sided, (all others) alternatives.

	Test Hypothesis		
	Cross-section	Time	Both
Breusch-Pagan	7.653465 <b>(0.0057)</b>	0.079279 (0.7783)	7.732744 (0.0054)
Honda	2.766490 (0.0028)	-0.281565 --	1.757107 (0.0394)
King-Wu	2.766490 (0.0028)	-0.281565 --	0.430358 (0.3335)
Standardized Honda	3.291481 (0.0005)	0.113168 (0.4549)	-2.180400
Standardized King-Wu	3.291481 (0.0005)	0.113168 (0.4549)	-1.801212 --
Gourieriou, et al.*	--	--	7.653465 ( $< 0.01$ )
*Mixed chi-square asymptotic critical values: 1% : 7.289, 5% : 4.321, 10% : 2.952			

Source: Output of Eviews 9, 2020

### 5.4. Panel Data Regression

Based on the results of the panel data regression model test above, the right model to use in this study is the fixed effect model. This happens because based on the chow test and the hausman test, the fixed effect model is more appropriate, while the lagrange multiplier test produces a random effect model.

Table 8. Fixed Effect Model Panel Regression Equations  
 Dependent Variable: Y\_CETR, Method: Panel Least Squares, Date 05/28/20 Tim2: 01:25, Sample: 2016-2018,  
 Periods include : 3, Cross-section include : 30, Total panel (balanced) observations : 90

Variable	Coefficient	Std. Error	t-Statistic	Prob.
X1_LEV	<b>0.387042</b>	0.124297	3.113849	<b>0.0029</b>
X2_ROA	<b>-0.590472</b>	0.380850	-1.550405	<b>0.1267</b>
X3_PP	<b>0.010877</b>	0.024531	0.443375	<b>0.6592</b>
X4_MAD	<b>-0.554678</b>	0.282519	-1.963326	<b>0.0546</b>
C	<b>0.241421</b>	0.097917	2.465568	<b>0.0168</b>
Effects Specification, Cross-section fixed (dummy variables)				
R-squared	0.741706	Mean dependent var		0.224692
Adjusted R-squared	<b>0.589497</b>	S.D. dependent var		0.123349
S.E. of regression	0.079031	Akaike info criterion		-1.956868
Sum squared resid	0.349766	Schwarz criterion		-1.012495
Log likelihood	122.0591	Hannan-Quinn criter.		-1.576041
F-statistic	4.872950	Durbin-Watson stat		3.229574
Prob(F-statistic)	<b>0.000000</b>			

Source: Output of Eviews 9, 2020

Based on the results of the output in the table s, the panel data regression model equation is obtained as follows:

$$\text{CETR} = 0.241421 + 0.387042 \text{ LEV} - 0.590472 \text{ ROA} + 0.010877 \text{ PP} - 0.554678 \text{ MAD} + e$$

The explanation of the results of the panel data regression model equation shows the coefficient value of each variable as follows:

1. The positive constant value is 0.241421 which indicates that if the variables of leverage, profitability, sales growth, and thin capitalization are assumed to be constant (0), it will increase the CETR by 0.241421.
2. The regression coefficient for the leverage variable (LEV) has a value of 0.387042 and has a positive correlation or relationship with tax avoidance as proxied by CETR. This shows that if the leverage increases by 1%, then the CETR will increase by 0.387042 with the assumption that the other independent variables of the regression model are fixed. Conversely, if the leverage decreases by 1%, then the CETR will decrease by 0.387042, assuming the other independent variables are constant.
3. The regression coefficient for the profitability variable (ROA) has a value of -0.590472 and has a negative correlation or relationship with tax avoidance as proxied by CETR. This shows that if the profitability increases by 1%, then the CETR will decrease by 0.590472 with the assumption that the other independent variables of the regression model are fixed. Conversely, if profitability has decreased by 1% then CETR will increase by 0.590472 assuming the other independent variables are constant.
4. The regression coefficient for the sales growth variable (PP) has a value of 0.010877 and has a positive correlation or relationship to tax avoidance as proxied by CETR. This shows that if sales growth has increased by 1%, then CETR will increase by 0.010877 assuming that the other independent variables of the regression model are fixed. Conversely, if sales growth has decreased by 1%, then CETR will decrease by 0.010877 with the assumption that the other independent variables are constant.
5. The regression coefficient for the thin capitalization variable (MAD) has a value of -0.554678 and has a negative correlation or relationship to tax avoidance as proxied by CETR. This shows that if the thin capitalization increases by 1%, then the CETR will decrease by 0.554678 with the assumption that the other independent variables of the regression model are fixed. Conversely, if thin capitalization decreases by 1%, the CETR will increase by 0.554678, assuming the other independent variables are constant.

## 5.5. Hypothesis Test

### 5.5.1. T-test

The t-test or partial test is used to test how the effect of each independent variable towards the dependent variable partially. If the significance value  $< 0.05$  means that the independent variable individually affects the dependent variable, then  $H_0$  is rejected and  $H_1$  is accepted. Conversely, if the significance value  $> 0.05$  means that the independent variable individually has no effect towards the dependent variable, then  $H_0$  is accepted and  $H_1$  is rejected.

The results of the t-test in the table of the regression equation for the panel data fixed effect model, it can be concluded for each variable as follows:

1. First Hypothesis Testing ( $H_1$ )

The test results in table 8 show that the leverage variable (LEV) has a probability value of 0.0029 which is smaller than 0.05 ( $0.0029 < 0.05$ ), so it can be concluded that  $H_1$  is accepted. The regression coefficient of the leverage variable is positive for tax avoidance of 0.387042. This shows that there is a positive influence between leverage towards tax avoidance as proxied by CETR.

2. Second Hypothesis Testing ( $H_2$ )

The test results in table 8 show that the profitability variable (ROA) has a probability value of 0.1267 which is greater than 0.05 ( $0.1267 > 0.05$ ), so it can be concluded that  $H_2$  is rejected. The regression coefficient of the profitability variable is negative for tax avoidance of -0.590472. This shows that profitability has no effect towards tax avoidance, which is proxied by CETR.

3. Third Hypothesis Testing ( $H_3$ )

The test results in table 8 show that the sales growth variable (PP) has a probability value of 0.6592 which is greater than 0.05 ( $0.6592 > 0.05$ ), so it can be concluded that  $H_3$  is rejected. The regression coefficient of the sales growth variable is positive for tax avoidance of 0.010877. This shows that sales growth has no effect towards tax avoidance, which is proxied by CETR.

4. Fourth Hypothesis Testing ( $H_4$ )

The test results in table 8 show that the thin capitalization (MAD) variable has a probability value of 0.0546, which is greater than 0.05 ( $0.0546 > 0.05$ ), it can be concluded that  $H_4$  is rejected. The regression coefficient for the thin capitalization variable is negative for tax avoidance of -0.554678. This shows that thin capitalization has no effect towards tax avoidance, which is proxied by CETR.

### 5.5.2. F-test

F-test or simultaneous test is a test to determine the effect of independent variables simultaneously on the dependent variable and is used in testing whether the regression model is made significant or not. Decision making in carrying out the F-test is done by seeing if the significant value of F (p-value)  $< 0.05$  then the independent variable affects the dependent variable, conversely if the significant value of F (p-value)  $> 0.05$  then the independent variable does not affect simultaneously the dependent variable. F-test results shown in the fixed effect model panel regression equation table can be seen that the value of significant F (p-value) of 0.000000 where the figure is smaller than 0.05 ( $0.000000 < 0.05$ ) which means the variable leverage, profitability, sales growth, and thin capitalization are influential together towards tax avoidance.

### 5.5.3. Coefficient of Determination Test

According to Winarno (2015), the coefficient of determination ( $R^2$ ) is used to measure how far the ability of the model in explaining the dependent variables where the value of the coefficient of determination is always between zero and one. Test the coefficient of determination in this study using the Adjusted R-square. The test results of the coefficient of determination shown in the regression equation table for panel data fixed effect models show that the effect of the variable leverage, profitability, sales growth, and thin capitalization towards tax avoidance is 0.589497 or 58.94% while the remaining 41.06% is influenced by other variables that are not in this regression model.

## 5.6. Discussion of Research Results

### 5.6.1. The Effect of Leverage Towards Tax Avoidance

Testing the variable of leverage towards tax avoidance shows the results of  $H_1$  accepted, it can be concluded that leverage (LEV) has a partial effect towards tax avoidance as proxied by CETR. Based on the above research results indicate that the leverage variable (LEV) has a probability value of 0.0029 which is less than 0.05 ( $0.0029 < 0.05$ ). The regression coefficient of the leverage variable is positive for tax avoidance of 0.387042. This shows that there is

a positive influence between leverage towards tax avoidance as proxied by CETR. It can be concluded that the higher the leverage value, the higher the CETR and vice versa.

This result is in line with research conducted by Selviani et al (2019) and Oktaviyani and Munandar (2017) which state that leverage has an effect towards tax avoidance. The company uses debt for operational activities in order to increase the profit earned so that it creates an interest expense that must be paid, this can reduce the company's tax burden not deliberately to do tax avoidance.

### **5.6.2. The Effect of Profitability Towards Tax Avoidance**

Testing the profitability variable towards tax avoidance shows the results of  $H_2$  rejected, it can be concluded that profitability (ROA) not has a partial effect towards tax avoidance as proxied by CETR. Based on the results of the study above shows that the profitability variable (ROA) has a probability value of 0.1267 which is greater than 0.05 ( $0.1267 > 0.05$ ). The regression coefficient of the profitability variable is negative for tax avoidance of -0.590472. This shows that profitability has no effect towards tax avoidance that is proxied by CETR.

These results are in line with research conducted by Nugroho et al (2016) and Ismi and Linda (2016). Tax avoidance is a risky activity, so managers will not take risks in minimizing the risk of their investment. Tax avoidance incurs costs because the company will use the services of a tax consultant to complete tax audits, reputation fines, and fines paid to tax authorities.

### **5.6.3. The Effect of Sales Growth Towards Tax Avoidance**

Testing the sales growth variable towards tax avoidance shows the results of  $H_3$  rejected, it can be concluded that sales growth (PP) is not has a partial effect towards tax avoidance as proxied by CETR. Based on the results of the study above shows that the sales growth variable (PP) has a probability value of 0.6592 which is greater than 0.05 ( $0.6592 > 0.05$ ). Variable regression coefficientsales growth positive value for tax avoidance of 0.010877. This shows that sales growth has no effect towards tax avoidance as proxied by CETR.

These results are in line with research conducted by Margaretha and Jenni (2019) and Oktaviyani and Munandar (2017). The higher the sales growth of a company, the greater the profit will increase. Companies that get large profits are assumed not to take tax avoidance measures. However, the high sales growth, companies also have to pay taxes. Then sales growth has no effect on tax avoidance.

### **5.6.4. The Effect of Thin Capitalization Towards Tax Avoidance**

Testing the thin capitalization variable towards tax avoidance shows the results of  $H_4$  rejected, it can be concluded that thin capitalization (MAD) doesn't has a partial effect towards tax avoidance as proxied by CETR. Based on the results of the study above shows that the thin capitalization variable (MAD) has a probability value of 0.0546 which is greater than 0.05 ( $0.0546 > 0.05$ ). Variable regression coefficientthin capitalization negative value for tax avoidance amounting to -0.554678. This shows that thin capitalization has no effect towards tax avoidance. These results are in line with research conducted by Ismi and Linda (2016).

## **6. Conclusion**

Based on the results of testing and discussion on the effect of leverage, profitability, sales growth, and thin capitalization towards tax avoidance on service companies in the trade, service, and investment sector listed on the Indonesia Stock Exchange in 2016-2018, it is concluded with the following results:

1. Leverage has a positive effect towards tax avoidance which is proxied by CETR. This shows that the higher the company's leverage value, the higher the CETR performed by the company. Companies that use debt to finance operational activities resulting in interest expense, as a result, the profit earned by the company will be reduced so that the taxes that must be paid by the company will be lower, so they are not deliberately doing tax avoidance. A low tax burden will have an impact on the downward trend in tax avoidance efforts.
2. Profitability has no effect towards tax avoidance, which is proxied by CETR. This shows that the higher the level of profitability of a company, the company will still pay the tax burden even though the tax burden is high. If the company is able to pay the tax burden according to what has been deferred, tax avoidance will not be carried out.
3. Sales growth has no effect towards tax avoidance, which is proxied by CETR. This shows that good sales growth in a company will make the company size bigger, it will make the total assets in the company even bigger. This situation will make it difficult for companies to avoid taxes.

4. Thin capitalization has no effect towards tax avoidance as proxied by CETR. This shows that the company in this study did not make a strategy to minimize or eliminate the tax burden.

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## References

- Dewinta, I. A. R., & Setiawan, P. E. (2016). Pengaruh Ukuran Perusahaan, Umur Perusahaan, Profitabilitas, Leverage, dan Pertumbuhan Penjualan Terhadap Tax Avoidance. *E-Jurnal Akuntansi*, 1584-1615.
- Falbo, T. D., & Firmansyah, A. (2018). Thin Capitalization, Transfer Pricing Aggressiveness, Penghindaran Pajak. *Indonesian Journal of Accounting and Governance*, 2(1), 1-28.
- Ghozali, Imam. (2016). Aplikasi Analisis Multivariate dengan Program IBM SPSS 23. Semarang: BPFE Universitas Diponegoro.
- Irianto, B. S., Sudibyo, Y. A., & Wafirli, A. (2017). The Influence of Profitability, Leverage, Firm Size and Capital Intensity Towards Tax Avoidance. *International Journal of Accounting and Taxation*, 5(2), 33-41.
- Ismi, F., & Linda, L. (2016). Pengaruh Thin Capitalization, Return on Asset, Dan Corporate Governance Pada Perusahaan Jakarta Islami Index (JII). *Jurnal Ilmiah Mahasiswa Ekonomi Akuntansi*, 1(2), 150-165.
- Kasmir. (2016). *Analisis Laporan Keuangan*. Jakarta: PT RajaGrafindo Persada.
- Khomsatun, S., & Martani, D. (2015). Pengaruh Thin Capitalization dan Assets Mix perusahaan Indeks Saham Syariah Indonesia (ISSI) Terhadap Penghindaran Pajak. *Symposium Nasional Akuntansi*, 1-23.
- Margaretha, M., & Jenni. (2019). Pengaruh Profitabilitas, Sales Growth, dan Leverage Terhadap Tax Avoidance (Studi Empiris Pada Perusahaan Sub Sektor Farmasi Yang Terdaftar di Bursa Efek Indonesia Periode 2013-2017). *Jurnal Ilmiah Akuntansi dan Teknologi*, 11(2), 2085-8108.
- Nugroho, A., Ahmar, N., & Darmansyah. (2016). Determinan Tax Avoidance pada Perusahaan Industri Manufaktur di Bursa Efek Indonesia. *Jurnal Gici*, 7(2) ISSN: 2088-1312.
- Oktaviani, R., & Munandar, A. (2017). Effect of Solvency, Sales Growth, and Institutional Ownership on Tax Avoidance with Profitability as Moderating Variables in Indonesian Property and Real Estate Companies. *Binus Business Review*, 8(3), 183-188.
- Purwanti, S. M., & Sugiyarti, L. (2017). Pengaruh Intensitas Aset Tetap, Pertumbuhan Penjualan dan Koneksi Politik Terhadap Tax Avoidance (Studi Kasus Pada Perusahaan Manufaktur yang Terdaftar di Bursa Efek Indonesia Tahun 2012–2016). *Jurnal Riset Akuntansi dan Keuangan*, 5(3), 1625-1642.
- Selviani, R., Supriyanto, J., & Fadillah, H. (2019). Pengaruh Ukuran Perusahaan dan Leverage Terhadap Penghindaran Pajak Studi Kasus Empiris Pada Perusahaan Sub Sektor Kimia di Bursa Efek Indonesia Periode 2013–2017. *Jurnal Online Mahasiswa (JOM) Bidang Akuntansi*, 5(5).
- Suandy, E. (2017). *Perencanaan Pajak Edisi 6*. Jakarta: Salemba Empat.
- Sugiyono, P. D. (2015). *Metode Penelitian Kuantitatif, Kualitatif, dan R&D*. Bandung: CV Alfabeta.
- Undang-Undang Republik Indonesia Nomor 28 Tahun 2007 Perubahan Ketiga Atas Undang-Undang Nomor 6 Tahun 1983 tentang Ketentuan Umum dan Tata Cara Perpajakan.
- Winarno, W. W. (2015). *Analisis Ekonometrika dan Statistika dengan E-Views Edisi 4*. Yogyakarta: UPP STIM YKPN.