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# The Effect of Leverage, Profitability and Firm Size on Tax Avoidance in Mining Companies Listed on the Indonesia Stock Exchange

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**Abstract:** *This study aims to analyze the effect of leverage, profitability, and firm size on tax avoidance in mining companies listed on the Indonesia Stock Exchange. The population of this study is mining companies listed on the Indonesia Stock Exchange in the 2018-2021 period. The sample selection in this study used a purposive sampling technique. The sample used is 17 mining companies that meet the criteria with 61 data used as research samples. The source of data in this study was obtained from the IDX website. Types of quantitative research. The analytical tool used is SPSS Version 21 with multiple linear regression testing. The variable of tax avoidance is proxied by the Cash Effective Tax Rate (CETR). The results of the research analysis show that leverage and profitability have an effect on tax avoidance, while firm size has no effect on tax avoidance.*

**Keywords:** Tax Avoidance, Leverage, Profitability, Firm Size

## I. INTRODUCTION

Indonesia is a developing country. With these developments, the government needs a large source of revenue to finance routine and non-routine state expenditures. Sources of Indonesian state revenue, one of which is obtained from taxes. Tax is an important element regulated in the Law of the Republic of Indonesia No. 28 of 2007 article 1, namely, Tax is a mandatory contribution to the country that is owed through an individual or entity that is coercive under the law and is used to finance the wishes of the state for the finest prosperity of its human beings. With the payment of taxes, the Indonesian government can carry out programs for infrastructure development, health costs, education costs, and construction of public facilities that will later be enjoyed by the people themselves. Therefore, the state always strives to optimize revenue in the tax sector (Hanafi & Harto, 2014).

The largest source of state revenue is obtained from tax payments from taxpayers, both individuals, and entities. From taxes, the government can implement programs to boost economic growth by developing infrastructure, public assets, and other public facilities. This is done to improve the welfare of the Indonesian people. According to the government, taxpayers are expected to fulfill their tax obligations to the maximum extent possible. However, from the taxpayer's point of view, tax payments are one of the factors that reduce income, so it is necessary to make certain efforts or strategies to reduce it. The strategies undertaken include; (a) tax avoidance and (b) tax evasion.

Tax evasion is an effort made by a company to try to reduce taxes by violating applicable tax regulations. Tax avoidance is an effort to avoid taxes that do not violate tax laws with the aim of exploiting the weaknesses of tax laws and minimizing the tax burden. Tax evasion is not considered a violation of tax laws and legal action, as companies only take advantage of the weaknesses of tax laws.

Tax evasion is often used by businesses to exploit legal weaknesses or enforce laws that are not intended to be exploited. Corporate secrecy is a hallmark of modern tax avoidance. Systems and data that want to evade taxes can be sold by the person who owns the data. For example, a tax accountant who agrees that the

taxpayers involved need to keep these facts private. This is a method used by tax evaders to prevent the government from knowing it (Aritonang and Marsyarul, 2008: 89).

The growth of tax revenue from the mining sector has fluctuated in the last five years. In 2016, tax revenue growth from the mining sector contracted -28%, but increased to 40.2% a year after. Then, tax revenue in the sector grew again to 49.4% in 2018. Tax revenue from the mining sector was recorded to decline again by 20.6% to Rp 123.3 trillion in 2019. Tax revenue contraction is getting bigger to 43.7% in 2020 due to the Covid-19 coronavirus pandemic (Lidwina, 2021).

Taxpayers have absolute discretion in calculating, paying, and reporting their tax obligations. The application of this tax seems to provide an opportunity for taxpayers to manipulate the amount of tax payable to reduce operational costs, including the tax burden. There are several other factors that influence companies to avoid taxes, such as profitability, leverage, and business size (tax avoidance).

The factor that influences the occurrence of tax avoidance is leverage. Leverage is a comparison that reflects the amount of debt the company uses to finance its operations. The more companies use loans, the more it affects the interest expense that must be paid by the company, and the less profit before tax the company must pay (Purnama, D. 2020).

Another factor is profitability. Kurniasih & Ratna Sari (2013) Profitability is a financial performance indicator that describes a company's ability to generate profits from asset management, also known as return on assets (ROA), which is expected to affect tax avoidance. The higher the ROA, the higher the net profit and company profitability. Profitable companies have the opportunity to position themselves to reduce their tax liability.

In addition to leverage and profitability, another factor that can affect tax avoidance is firm size. According to Kurniasih & Ratna Sari (2013) Firm size is the size of a company that is determined by the number of assets it possesses.Assets are thought to have a relatively stable level of stability. Firm size to the level of tax avoidance in a company. In other words, the larger the size of the company, the more capable the company is of regulating taxation by making tax savings that can include tax avoidance.

The results of previous studies found several factors that influence the occurrence of tax evasion. Based on research conducted by Jasmine & Paulus (2017) shows that leverage, profitability, and firm size affect tax avoidance. Annisa (2017) shows that leverage has an effect on tax avoidance, while firm size has no effect on tax avoidance. Research by Rifai, A., & Atiningsih, S. (2019) shows that profitability has a negative effect on tax avoidance, while leverage has no effect on tax avoidance.

The inconsistency in the results of preceding research motivates researchers to re-observe tax avoidance by updating the take-a look at population and studies time and the use of independent variables that have been used by preceding researchers, particularly the impact of leverage, profitability, and firm size on tax avoidance in mining companies listed on the IDX in 2018-2021.

## II. LITERATURE REVIEW

### Tax Avoidance

Tax avoidance is defined as every effort made to reduce the tax burden (Puspita & Harto, 2014). Tax avoidance opens a business for every company manager to reduce the tax burden, even if the tax is not paid to the government to take personal or certain group benefits.

### Agency Theory

According to Jensen and Meckling (1976) agency relationship is defined as a settlement in which one or more human beings (principals) are concerned with every other individual (agent) to perform work by way of giving authority for decision-making.Agency theory explains the relationship between capital owners as principals and management as agents.

### Leverage

Leverage is a ratio that measures how much debt the company uses to finance investments. Debt to Equity Ratio, which compares total debt with total equity as a source of funding, can be used to measure leverage(Puspita & Febrianti, 2017).

### Profitability

Profitability is an important aspect of the imposition of income tax on companies.Profitability is a measure that reflects the company's financial performance because the higher the ROA value, the better the company's performance(Subagiastra et al., 2016).

### Firm Size

Firm size is a scale that categorizes companies as large or small based on factors such as total assets or total assets of the company, stock market value, average level of sales, and total sales (Ngadiman & Puspitasari, 2014).

## III. INDENTATIONS AND EQUATIONS

### Research Design

This study uses an associative quantitative method as an approach to analyzing research problems because this study uses numbers as variable indicators to answer research problems.

### Population and Sample

This study's population consists of mining companies listed on the Indonesia Stock Exchange (IDX).Purposive sampling is the sampling technique used in this study. The sample for this study was 17 companies, with a total of 61 samples collected over four research periods.

### Types and Sources Data

The type of data in this study uses secondary data in the form of annual reports and financial reports of mining companies in 2018-2021 listed on the Indonesia Stock Exchange which can be accessed on the official website of the Indonesia Stock Exchange (www.idx.co.id).

### Multiple Linear Regression Analysis

The analytical method used to test the hypothesis is a multiple linear regression analysis models. Multiple linear regression analysis to examine the effect of several independent variables on one dependent variable. The test model in this study is stated in the equation below:

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

Information:
Y = Tax Avoidance (CETR)
$\alpha$ = Constant
$\beta_1$ = Leverage variable regression coefficient
$\beta_2$ = Profitability variable regression coefficient
$\beta_3$ = Firm Size variable regression coefficient
$X_1$ = Leverage
$X_2$ = Profitability
$X_3$ = Firm Size
e = Error

## IV. FIGURES AND TABLES

### IV.1 Data Analysis and Discussion

### IV.1.1 Descriptive Statistical Analysis

**Table 1. Descriptive Statistics**

| | N | Minimum | Maximum | Mean | Std. Deviation |
|---|---|---|---|---|---|
| Leverage | 61 | .10 | 1.91 | .6978 | .47650 |
| Profitability | 61 | .00 | .39 | .1080 | .08371 |
| Firm Size | 61 | 28.39 | 32.32 | 30.0190 | 1.02714 |
| Tax Avoidance | 61 | .04 | 1.53 | .4733 | .34847 |
| Valid N (listwise) | 61 | | | | |

Source: Secondary data processed by the author, 2022

Based on the descriptive statistical test in table IV.1 there is information about the minimum, maximum, average (mean), and standard deviation values of each variable studied in this study.

1. The leverage variable has a minimum value of 0.10 and a maximum value of 1.91, while the average value (mean) is 0.6978 with a standard deviation of 0.47650.
2. The profitability variable has a minimum value of 0.00 and a maximum value of 0.39, while the average value (mean) is 0.180 with a standard deviation of 0.08371.
3. Firm size variable has a minimum value of 28.39 and a maximum value of 32.32, while the average value (mean) is 30.0190 with a standard deviation of 1.02714.
4. The tax avoidance variable has a minimum value of 0.04 and a maximum value of 1.53, while the average value (mean) is 0.4733 with a standard deviation of 0.34847.

### IV.1.2 Classic Assumption Test

### IV.1.2.1 Normality Test

**Table 2.One-Sample Kolmogorov-Smirnov Test**

| Information | Unstandardized Residual |
|---|---|
| Asymp. Sig. (2-tailed) | 0,315 |

Source: Secondary data processed by the author, 2022

Based on Kolmogorov-Smirnov obtained Asymp. Sig (2-tailed) of 0.315 where the value exceeds the significance level of 0.05 (5%). The results of this test indicate that the data is normally distributed.

### IV.1.2.2 Multicollinearity Test

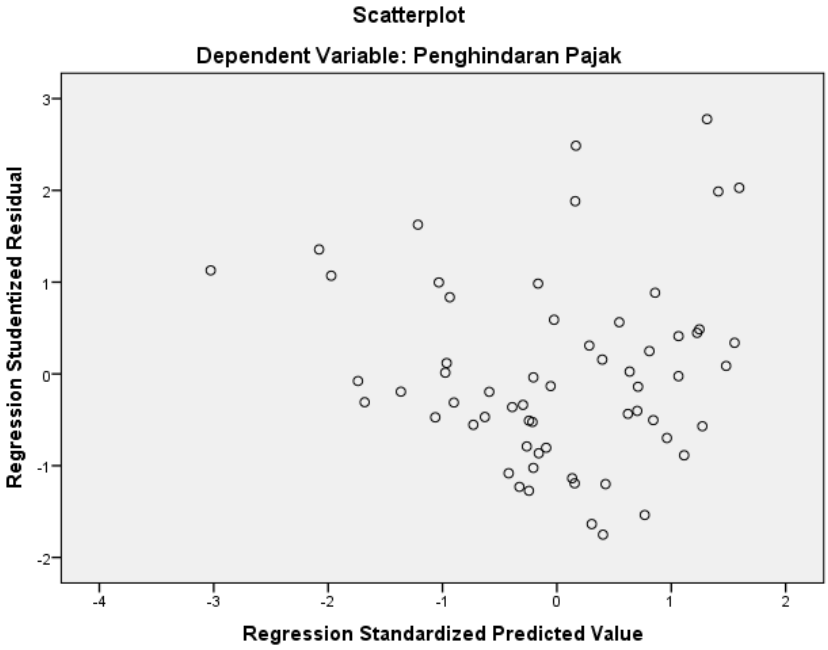
**Table 3. MULTICOLLINEARITY TEST RESULTS**

| Variable | *Tolerance* | *VIF* | Information |
|---|---|---|---|
| Leverage | 0,921 | 1,085 | There Is No Multicollinearity |
| Profitability | 0,818 | 1,222 | There Is No Multicollinearity |
| Firm Size | 0,884 | 1,131 | There Is No Multicollinearity |

Source: Secondary data processed by the author, 2022

Based on the table, the tolerance value of the leverage variable is 1.085, the profitability is 1.222 and the firm size is 1.131, where the value is greater than 0.1 and the VIF value is less than 10, so it can be concluded that all variables do not have multicollinearity problems.

### IV.1.2.3 Heteroscedasticity Test




Source: Secondary data processed by the author, 2022

Based on the heteroscedasticity test, it can be seen that the points spread above and below the number 0 on the y-axis and there is no certain regular pattern, so it can be concluded that there is no heteroscedasticity.

### IV.1.2.4 Autocorrelation Test

**Table 4. AUTOCORRELATION TEST RESULTS**

| Model | *Durbin-Watson* |
|---|---|
| 1 | 1,798 |

Source: Secondary data processed by the author, 2022

Based on the table, it can be seen that the DW value is 1.798. To detect autocorrelation, the Durbin Watson (DW) test is used with the condition that the regression model does not autocorrelation if DW is greater than the value du and less than the value 4-du (du<DW<(4-du)). Where the number of samples (n) is 61 and the number of variables (k) is 4, the value of Du which can be seen in the Durbin-Watson table is 1.7281 and the value of Durbin-Watson (DW) is less than 4 minus the value of du so that it can be concluded that there is no autocorrelation.

### IV.2 Hypothesis Test

### IV.2.1 Multiple Linear Regression

**Table 5. Multiple Linear Regression Results**

**Coefficients[a]**

| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
|---|---|---|---|---|---|---|
| | | B | Std. Error | Beta | | |
| 1 | (Constant) | 0.414 | 1.188 | | 0.348 | 0.729 |
| | Leverage | -0.2 | 0.082 | -0.273 | -2.439 | 0.018 |
| | Profitability | -2.416 | 0.494 | -0.58 | -4.886 | 0 |
| | Firm Size | 0.015 | 0.039 | 0.045 | 0.395 | 0.695 |

Source: Secondary 2022

Based on the table, the regression equation can be arranged as follows:

TA = 0,414 - 0,200 LV – 2,416 PF + 0,015 UP + ε

Based on the regression equation, it can be interpreted as follows:

1. The constant value of 0.414 indicates that firm size, leverage, profitability, and firm size are assumed to be constant or equal to 0, then the value of tax avoidance is 0.414.
2. The coefficient value of the leverage variable is -0.200. This shows that for every one-unit increase in leverage, the tax avoidance variable will decrease by 0.200 units and vice versa with the assumption that the other independent variables of the regression model are fixed.
3. The coefficient value of the profitability variable is -2.416. This shows that for every one-unit increase in profitability, the tax avoidance variable will decrease by 2,416 units and vice versa with the assumption that the other independent variables of the regression model are fixed.
4. The coefficient value of the firm size variable is 0.015. This shows that for every increase in firm size by one unit, the tax avoidance variable will decrease by 0.015 units and vice versa with the assumption that the other independent variables of the regression model are fixed.

### IV.2.2 Coefficient of Determination Test ($R^2$)

**Table 6. Coefficient of Determination Test Results**

**Model Summary[b]**

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
|---|---|---|---|---|
| 1 | .585[a] | .342 | .307 | .29003 |

Source: Secondary data processed by the author, 2022

Based on the table shows the value of the coefficient of determination with an adjusted R2 of 0.307. This means that 30.7% of the variation in tax avoidance variables can be explained by variables, leverage, profitability, and firm size. While the remaining 69.3% is explained by other factors outside the model studied.

### IV.2.3 Simultaneous Test (F Test)

**Table 7. F Test Results**

**ANOVA[a]**

| Model | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| 1 | Regression | 2.491 | 3 | .830 | 9.872 | .000[b] |
| | Residual | 4.795 | 57 | .084 | | |
| | Total | 7.286 | 60 | | | |

Source: Secondary data processed by the author, 2022

Based on the table shows the calculated F value of 9.872 with a significance of 0.000 which means the value is significantly smaller than the significance level of = 0.05, so it can be concluded that the variables of leverage, profitability, and firm size simultaneously or jointly affect tax avoidance.

### IV.2.4 Statistical Test (t-Test)

**Table 8. t Test Results**

**Coefficients[a]**

| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
|---|---|---|---|---|---|---|
| | | B | Std. Error | Beta | | |
| 1 | (Constant) | 0.414 | 1.188 | | 0.348 | 0.729 |
| | Leverage | -0.2 | 0.082 | -0.273 | -2.439 | 0.018 |
| | Profitability | -2.416 | 0.494 | -0.58 | -4.886 | 0 |
| | Firm Size | 0.015 | 0.039 | 0.045 | 0.395 | 0.695 |

Source: Secondary data processed by the author, 2022

Based on the table, it can be explained as follows:

1. The leverage variable has a $t_{count}$ greater than $t_{table}$ (-2.439 > 2.002) and a significance value greater than 0.05 (0.018 < 0.05), so it can be concluded that in this study leverage has no effect on tax avoidance.
2. The profitability variable has a $t_{count}$ greater than $t_{table}$ (-4.886 > 2.002) and a significance value less than 0.05 (0.000 < 0.05), so it can be concluded that in this study profitability has an effect on tax avoidance.
3. Firm size variable has a $t_{count}$ value smaller than $t_{table}$ (0.395 < 2.002) and a significance value greater than 0.05 (0.395 > 0.05), so it can be concluded that in this study firm size has no effect on tax avoidance.

### IV.3 Discussion of Research Results

### IV.3.1 The Effect of Leverage on Tax Avoidance

Based on the results of hypothesis testing, the leverage variable has a negative regression coefficient of 0.200 and has a $t_{count}$ greater than $t_{table}$ (-2.439 > 2.002) with a significance value less than 0.05 (0.018 < 0.05). The results show that the leverage variable has an effect on tax evasion.

### IV.3.2 The Effect of Profitability on Tax Avoidance

Based on the results of hypothesis testing, the profitability variable has a negative regression coefficient of 2.416 and has a $t_{count}$ value greater than $t_{table}$ (-4.886 > 2.002) with a significance value less than 0.05 (0.000 < 0.05). The results showed that the profitability variable had an effect on tax avoidance.

### IV.3.3 The Effect of Firm Size on Tax Avoidance

Based on the results of hypothesis testing, the firm size variable has a negative regression coefficient of 0.015 and has a $t_{count}$ value smaller than $t_{table}$ (0.395 < 2.002) with a significance value greater than 0.05 (0.695 > 0.05). The results showed that the firm size variable had no effect on tax avoidance.

## V. CONCLUSION

Based on the results of the previous chapter's analysis and discussion, the following conclusions can be drawn:

1. Leverage has a significant effect on tax avoidance. This shows that leverage affects companies in tax avoidance
2. Profitability has a significant effect on tax avoidance. This shows that leverage affects companies in tax avoidance.
3. Firm size has no significant effect on tax avoidance. This shows that there is no tax avoidance action that is influenced by the size of the company.

### Limitations

This study still has limitations and needs to be considered by future researchers. The limitations of the existing research include:

1. The sampling in this study was limited to mining companies listed on the Indonesia Stock Exchange (IDX) during the 2018-2021 period, so this study cannot be generalized to companies outside of mining.
2. This study uses secondary data methods so that the conclusions put forward are only based on data collected through the financial report data of companies listed on the IDX.
3. This study only uses a few variables, so overall it cannot explain what factors influence tax avoidance.

### Suggestion

Based on the conclusions and limitations of this study, several recommendations can be made that can be used in further research, namely:

1. Further research is expected to increase the number of samples of companies listed on the IDX by broadening the industry sectors that will be sampled.
2. Future research is expected to increase the research period so that the results are much more accurate and generalized.
3. Further research can add other variables that can predict the existence of tax avoidance activities.

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