

The Effect of Profitability and Company Size on Tax Avoidance in the Mining Sector Listed on the IDX in 2019-2023

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Abstract

This study investigates the effect of profitability and company size on tax avoidance in mining sector companies listed on the Indonesia Stock Exchange (IDX) during 2019–2023. Tax avoidance remains a critical issue in the mining industry due to its strategic contribution to state revenue and the sector's vulnerability to aggressive tax practices. Using a purposive sampling method, 10 mining companies meeting the research criteria were selected, resulting in 50 firm-year observations. The study employs multiple linear regression analysis using IBM SPSS Version 29 to assess the relationship among variables. The classical assumption tests—normality, multicollinearity, heteroscedasticity, and autocorrelation—confirmed the validity of the regression model. The findings reveal that profitability has no significant effect on tax avoidance, indicating that highly profitable companies tend to comply with tax regulations to avoid reputational and legal risks. Conversely, company size shows a significant positive effect on tax avoidance, suggesting that larger firms possess greater resources and access to professional expertise, enabling them to implement structured tax avoidance strategies. The model's Adjusted R^2 value of 0.181 indicates that 18.1% of tax avoidance behavior can be explained by profitability and company size. The study contributes to tax management literature by providing empirical evidence on firm characteristics influencing tax avoidance in Indonesia's mining industry and offers insights for policymakers to enhance regulatory oversight.

1. Introduction

In Indonesia, taxes have evolved over time and are now an essential requirement in the life of the nation and state. According to the Republic of Indonesia Law Number 28 Article 1 of 2007 concerning the definition of taxes, taxes are a form of mandatory contribution to the state owed by individuals or bodies that is mandatory based on the Law without receiving direct compensation and is used for state purposes for the greatest prosperity of the people (Republic of Indonesia, 2007).

Quoted from news.ddtc.co.id, the Corruption Eradication Commission (KPK) said that the mining sector is a sector that is prone to tax avoidance practices. One example of a case is the case experienced by PT Bumi Resource Tbk which manipulated reports on coal sales results to the Directorate General of Taxes (DGCO) which were carried out together with its subsidiaries which were estimated to have been carried out for 6 years from 2003 to 2008. This resulted in a reduction in tax revenue of \$620.49 million. Based on calculations by

Indonesia Corruption Watch (ICW) using audited financial report data, it shows that from 2003 to 2008, PT Bumi Resource Tbk reported USD\$1 billion lower than the actual financial report. The effect of this action was a reduction in the receipt of Coal Production Funds (royalties) by \$143.10 million (Ariska et al., 2020).

The conflict between the government's need to increase tax revenue and the business strategies of mining companies seeking to maximize profits reflects the complexity of tax regulations. Companies in this sector prioritize tax efficiency to maintain their competitiveness (Depi et al., 2024). Therefore, the government and regulators need to strengthen tax oversight and policies to minimize tax avoidance practices without hampering the growth of the mining sector (Muslim & Fuadi, 2023).

The factor contributing to this difference is the concept of proportional taxation. When a business generates substantial profits, the tax burden is also substantial. Therefore, company management must employ various means to

reduce their tax burden. One way companies do this is through tax avoidance measures.

Based on the description above, the researcher is interested in conducting further research due to the inconsistency of previous research results, and considering the important role of taxation in state revenue sources. Several previous studies with relevant research topics still found many research results that still need further research development to produce and become sources for future research. Therefore, the researcher decided to choose the title "The Effect of Profitability and Company Size on Tax Avoidance in Mining Sector Companies Listed on the Indonesia Stock Exchange in 2019-2023".

2. Literature Review

2.1 Agency Theory (Agency Theory)

Agency theory explains the relationship between principals (investors) and agents (managers) within an organization, which can create problems and require agents to make decisions related to these issues (Jensen & Meckling, 1976). This relationship, in theory, is highly susceptible to agency problems or conflicts. Agency conflicts arise from differences in the amount of information available to both the agent and the principal.

2.2 Tax Avoidance

Tax avoidance is generally carried out by taxpayers, with the potential to reduce their taxable income (Romansyah et al., 2021). Tax avoidance is a legal tax planning activity without violating tax laws and regulations. Tax avoidance exploits weaknesses in existing tax regulations.

2.3 Profitability

Profitability can be defined as an entity's capability to generate profits efficiently and effectively over a specific period of time. Profitability is used as a measure of an entity's performance in managing the company to maximize profits and reflect sound financial performance. Furthermore, profitability is also used as a primary benchmark in determining

corporate tax rates. The tax rate imposed on an entity can be said to be directly proportional, meaning the greater the profit earned by an entity, the greater the tax burden imposed. Conversely, when an entity's profits are small, the tax burden imposed will also be small (Rahmawati & Jaeni, 2022).

2.4 Company Size

Company size is a value that indicates the size of a company, which can be described through various indicators, such as total assets, net sales, and market capability (Dianawati & Agustina, 2020). However, in this study, company size is measured based on total assets, as total assets tend to be more stable than revenue or market capability. Based on their size, companies can be grouped into two categories: large companies and small companies. Large companies typically have more complex and organized management systems and a higher ability to generate profits than small companies.

3. Research Methods

3.1 Research Design

This study employs a quantitative research design using a survey approach to examine the factors influencing the effectiveness of the electronic parking fee system (E-Parking) in Makassar City. The study aims to analyze how technological, operational, and human factors affect the efficiency and satisfaction levels of both users and administrators. The quantitative approach allows for statistical testing of relationships between variables and the generalization of findings.

3.2 Population and Sample

The population of this study includes all E-Parking users and parking officers operating under the Makassar City Transportation Department. A purposive sampling technique was employed to select respondents who have experience using or managing the E-Parking system. A total of 150 respondents participated, comprising 100 users and 50 parking

attendants. The sample size meets the minimum requirement for multivariate analysis.

3.3 Data Collection Procedures

Primary data were collected through structured questionnaires distributed both online and offline. The instrument consisted of closed-ended questions measured using a five-point Likert scale, ranging from 1 ("strongly disagree") to 5 ("strongly agree"). The questionnaire was designed based on previous studies on e-payment effectiveness and public service quality.

3.4 Measurement of Variables

The main variables in this study include system quality, service quality, user satisfaction, and operational effectiveness. Each construct was measured using validated indicators adopted and adapted from prior empirical research. Reliability and validity were confirmed through Cronbach's Alpha and Confirmatory Factor Analysis (CFA).

3.5 Data Analysis Techniques

Data were analyzed using Structural Equation Modeling–Partial Least Squares (SEM-PLS) with SmartPLS software. This technique was chosen due to its suitability for predictive models and its ability to handle complex relationships between latent variables. The analysis included testing the outer model (convergent and discriminant validity) and the inner model (path coefficients and hypothesis testing).

4. Results and Discussion

4.1 Research Results

4.1.1 Descriptive Statistical Test Results

Descriptive statistics describe how research data is presented and explains the data, including minimum, maximum, *mean*, and standard deviation values. The following descriptive statistics are available from 50 research data sets, covering the variables of profitability, company size, and tax avoidance:

Tabel 1. Descriptive Statistic Analysis

	N	MIN	MAX	Mean	Std. Deviasi
Profitability	50	0.01	0.28	0.0896	0.06475
Company Size	50	23.90	29.70	27.2196	1.80962
Tax Avoidance	50	-0.72	0.13	-0.1387	0.15357

Source : SPSS data processed, 2025

The results of the analysis of table 1 show that the dependent variable is avoidance. tax has a maximum value of 0.13 and a minimum of -0.72 and a mean of -0.1387 and a standard deviation 0.15357. The Profitability variable (X1) has a minimum value of 0.01 and a maximum value of 0.28 with an average (mean) of 0.0896 and a standard deviation of 0.06475. The Size Variable Company (X2) shows a minimum value of 23.90 and a maximum value of 29.70 with the average (mean) is 27.2196 and the standard deviation is 1.80962.

4.1.2 Classical Assumption Test

The classical assumption test in this study uses the normality test, multicollinearity test,

and correlation test. heteroscedasticity, and autocorrelation tests. The following are the results of the sample data for testing the classical assumptions in this study:

a. Normality Test

The normality test in this study used the Kolmogorov-Smirnov method. In this test, there is a criterion if the Kolmogorov-Smirnov significance value > 0.05, which indicates a normal distribution of the data. Conversely, if the Kolmogorov-Smirnov significance value < 0.05, the data is not normally distributed. The results of the normality test can be seen as follows:

Tabel 2 Normality Test

Total Sample	50
Significance	0.073

Source : SPSS data processed, 2025

According to the test results, the Kolmogorov-Smirnov test above shows a significance of 0.073 with a sample of 50 data samples, so it is concluded that the significance value of the normality test is greater than 0.05, thus the data is declared normally distributed.

b. Multicollinearity Test

A multicollinearity test is performed to determine whether there is a correlation between independent variables in a regression

model. The presence of multicollinearity can be determined by examining the Tolerance and Variance Inflation Factor (VIF) values in the regression model. If the tolerance value is greater than 0.10 and the variance value is less than 10, then multicollinearity is absent in the regression model. Following the test, the following are the results of the multicollinearity test.

Tabel 3 Uji Multicollinearity Test

Model	Collinearity Statistics	
	Tolerance	VIF
Profitability	0.987	1.013
Company Size	0.987	1.013

Source : SPSS data processed, 2025

The test results show that the VIF is below 10 and the tolerance is greater than 0.10. Therefore, it is concluded that there is no multicollinearity in the regression model used.

c. Heteroscedasticity Test

The heteroscedasticity test is conducted to test whether in the regression model there is inequality of variance from the residuals of one observation to another. If the variance from the residuals of one observation to another observation remains constant, it is called

homoscedasticity and if it is different, it is called heteroscedasticity. The Heteroscedasticity test can be conducted by looking at the Scatterplot graph which sees a random distribution pattern of points, does not show a certain regular shape, and the points are randomly distributed, does not show a certain certain regular shape, and is evenly distributed above and below the zero line on the Y-axis indicating that the regression model does not experience symptoms of heteroscedasticity, or in other words meets the assumption of homoscedasticity. The form of the Scatterplot graph is as follows:

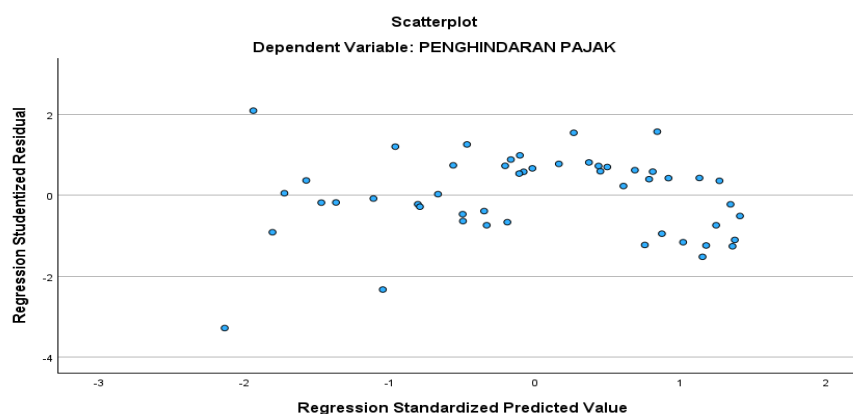


Figure 1 Heteroscedasticity Test Results

Source: Processed Data from SPSS 29 (2025)

Figure 1 above shows that the resulting points are randomly distributed, without forming a particular pattern or line, and are distributed both above and below the number 0 on the Y axis. The results of this test indicate that this regression model does not experience heteroscedasticity problems.

d. Autocorrelation Test

An autocorrelation test is performed to determine whether a correlation exists between

one period and previous periods. An autocorrelation test is also performed to assess the autocorrelation between independent variables because consecutive observations result in dependent residuals in each observation. This research uses the Durbin-Watson (DW) value for autocorrelation. If the DW is between -2 and 2, the conclusion is that there is no autocorrelation in the observations.

Tabel 4 Autocorrelation Test

Variabel	DW
1	1.973
Profitability, Company Size	
Variable Y: Tax Avoidance	

Source : SPSS data processed, 2025

Looking at the test results above, the Durbin-Watson (DW) value obtained is 1.973. Because this value is in the range of -2 to 2, the author states that the regression model is free from autocorrelation problems.

Multiple linear regression analysis is used to analyze the direction of the relationship and the impact of the independent variables on the dependent variable. The results of the multiple linear regression analysis are presented as follows.

4.1.3 Multiple Linear Regression

Tabel 5 Multiple Linear Regression Analysis

Model	Unstandardized Coefficients	
	B	Std. Error
(Constant)	-1.214	0.306
Profitability	0.405	0.309
Company Sise	0.038	0.011

source : SPSS data processed, 2025

Based on the results of the data management that has been carried out, multiple linear regression analysis can be formulated through the equation below:

$$Y = -1.214 + 0.405X_1 + 0.038X_2 + e$$

Description:

1. The equation above shows a negative constant value of -1.214. This means that if the independent variable is 0, then the dependent variable is -1.214.
2. The independent variable (X₁), profitability, has a positive coefficient of 0.405, meaning

that if profitability increases by 1, tax avoidance (Y) will increase by 0.405.

3. The variable (X₂), company size, has a positive coefficient of 0.038, meaning that if company size increases by 1, tax avoidance (Y) will increase by 0.038.

4.1.4 Hypothesis Text

Hypothesis testing is useful for evaluating the influence of independent variables on dependent variables. Furthermore, this test is also used to assess whether a proposed

hypothesis is accepted or rejected. The test criteria state that if the significance value is less than 0.05, the independent variable has a significant influence on the dependent variable. Conversely, if the significance value exceeds

0.05, the independent variable does not have a significant influence on the dependent variable. The following are the results of the hypothesis test.

Tabel 6 Hypothesis Test Results

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	-1.214	0.306		-3.971	0.001
Profitability	0.405	0.309	0.171	1.312	0.196
Company Size	0.038	0.011	0.450	3.455	0.001

source : SPSS data processed, 2025

- The research results show that profitability, as measured by ROA, has a significance value of 0.196 with a positive coefficient of 0.405. Based on these values, the first hypothesis is rejected, as the research results provide evidence that profitability has no significant effect on tax avoidance.
- The results of the hypothesis test show that the significance value of the company size variable is 0.001 with a positive coefficient of 0.038. Based on these values, the proposed hypothesis is accepted, as data analysis shows that company size has a

significant and positive effect on tax avoidance.

a. Goodness of Fit (F-Test)

One step in assessing the feasibility of a model is to conduct an F-test. The purpose of the F-test is to determine whether a regression model is considered feasible. The test criteria are: if the significance value is below 0.05, the regression model is considered feasible; if the significance value exceeds 0.05, the model cannot be used. The following table shows the results of the F-test.

Tabel 7 F Test

UJI F			
Variabel		Sum of Squares	Nilai signifikansi
1	Regression	0.247	0.003 ^b
	Residual Value	0.908	
	Total	1.156	
Variabel Y : Tax Avoidance			

Source : SPSS data processed, 2025

The results showed a significance value of 0.003. Therefore, the authors concluded that this regression model was feasible and could be used in further analysis.

b. Coefficient of Determination (R²)

A coefficient of determination test was conducted to assess the feasibility of the regression model for the research variables. The test yielded the following results:

Tabel 8 Coefficient of Determination Test

Variabel	R	R Square	Adjusted R Square
1	0.463 ^a	0.214	0.181
b. Dependent Variable: Tax Avoidance			

Source : SPSS data processed, 2025

Based on the test results, the Adjusted R Square value is 0.181. This indicates that this independent variable can interpret 18.1% of the variation in the dependent variable, but the remaining 81.9% is explained by other variables not included in the study.

4.2 Research Discussion

a. The Effect of Profitability on Tax Avoidance

Based on the first hypothesis test, the test results listed in Table 4.10 indicate a significance value of 0.196 for profitability with a coefficient of 0.405. Therefore, it can be concluded that profitability has no effect on tax avoidance. This is inconsistent with agency theory, which posits that if the owner (principal) and the manager (agent), the company can generate a higher net profit if the manager optimizes tax payments (Jensen & Meckling, 1976). Therefore, managers are motivated to optimize taxes to gain incentives for tax minimization.

However, research by Ayu Nurulita & Yulianto (2023) differs, as the results show that higher profitability leads to less tax avoidance. This is due to other factors, such as strict public oversight. This also aligns with research conducted by (Ayu Nurulita & Yulianto, 2023), (Virhan dan Rina, 2022), and (Kasir, 2023), which states that profitability has no effect on tax avoidance.

b. The Effect of Company Size on Tax Avoidance

Based on the second hypothesis test, it was shown that company size has a positive and significant effect on tax avoidance. This is evident from the t-test results, with a significance value less than 0.05, indicating that company size partially has a positive and significant effect on tax avoidance.

This research aligns with agency theory, stating that the larger the company, the more information it produces. This can encourage management to withhold important information from shareholders, creating information asymmetry and potential conflicts of interest, particularly regarding tax policy (Santini et al., 2020). Management often assumes that the larger the company, the greater the tax burden, thus increasing their incentive to engage in tax avoidance. This also aligns with research conducted by (Yuliana Yuliana & Wuri Septi Handayani, 2024), (Sari & Artati, 2021), and (Novita & Janrosl, 2021), which states that company size has a positive and significant effect on tax avoidance.

5. Closing

5.1 Conclusion

This study empirically examined the effect of profitability and company size on tax avoidance among mining sector companies listed on the Indonesia Stock Exchange (IDX) during 2019–2023. The regression analysis revealed that profitability has no significant effect on tax avoidance, suggesting that firms with higher profitability tend to comply with tax obligations to maintain their corporate reputation and avoid potential legal sanctions. In contrast, company size has a significant and positive effect on tax avoidance.

Larger firms possess more resources and professional expertise, allowing them to implement structured and legitimate tax planning strategies to minimize their tax liabilities. The Adjusted R² value of 0.181 indicates that 18.1% of the variation in tax avoidance can be explained by profitability and company size, while 81.9% is influenced by other factors not included in this study. These findings underscore the importance of firm characteristics in understanding corporate tax

behavior, particularly in highly regulated and resource-dependent sectors such as mining.

5.2 Theoretical and Managerial Implications

From a theoretical standpoint, the findings contribute to agency theory by confirming that managerial discretion in larger firms may facilitate tax avoidance practices due to information asymmetry between managers and shareholders. The results also expand the literature on corporate governance and taxation in emerging markets, particularly within extractive industries.

From a managerial perspective, the study highlights the need for corporate leaders to adopt transparent and responsible tax strategies. Regulators and tax authorities should enhance supervision mechanisms for large-scale enterprises, ensuring that tax planning remains within legal boundaries. In addition, policymakers can design more effective tax enforcement systems targeting companies with significant asset bases and complex financial structures.

5.3 Limitations of the Study

Despite its contributions, this study has several limitations. First, it only focuses on profitability and company size as predictors of tax avoidance, excluding other potentially relevant factors such as leverage, corporate governance quality, or capital intensity. Second, the research sample is limited to mining sector firms listed on the IDX, which may restrict the generalizability of the findings to other industries. Third, the study uses secondary data from published financial statements, which may not fully capture managerial intentions or the nuances of corporate tax strategies.

5.4 Recommendations for Future Research

Future studies are encouraged to expand the scope of variables by incorporating factors such as leverage, audit quality, ownership structure, or environmental performance to provide a more comprehensive understanding of corporate tax behavior. Comparative studies across sectors or countries

could also offer broader insights into how institutional and regulatory environments affect tax avoidance practices. Moreover, qualitative or mixed-method approaches could be employed to capture managerial perspectives on tax compliance decisions and organizational ethics related to taxation.

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