

# THE EFFECT OF INVENTORY INTENSITY AND REAL EARNINGS MANAGEMENT ON TAX AVOIDANCE IN COMPANIES MINING SECTOR ON THE INDONESIA STOCK EXCHANGE 2020-2023

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## Abstract

This study was conducted to determine the effect of Inventory Intensity and Real Earnings Management on Tax Avoidance in Mining Sector Companies on the Indonesia Stock Exchange in 2020-2023. Based on the predetermined research hypothesis, it is known that inventory intensity and real earnings management have an effect on tax avoidance. The type of quantitative research with a causal associative approach. The population is 42 mining sector companies with a purposive sampling technique of 27 companies over a period of 5 years with a total of 108 data. The fund processing technique uses multiple linear regression analysis. The results of the study indicate that partially inventory intensity has a positive and significant effect on tax avoidance, but real earnings management does not affect tax avoidance. Simultaneously, inventory intensity and real earnings management have a significant effect on tax avoidance.

**Keywords:** *Inventory Intensity, Real Earnings Management and Tax Avoidance*

## INTRODUCTION

The economic growth of a country is influenced by tax contributions from companies. However, tax avoidance practices are often carried out by companies to minimize their tax burden, although still within the legal corridor (loopholes). An example is the case of PT Adaro Energy Tbk which is suspected of carrying out transfer pricing to shift profits to countries with low tax rates, thus paying much lower taxes than they should. One indicator of tax avoidance practices is a low Cash Effective Tax Ratio (CETR) (<22%). Several mining sector companies on the IDX such as PT Borneo Olah Sarana Sukses Tbk, PT Cita Mineral Investindo Tbk, and PT Hillcon Tbk showed fluctuating and low CETR during the 2020–2023 period.

Two factors that are thought to influence tax avoidance are inventory intensity and real earnings management. Both have an impact on profit, which in turn affects the amount of tax paid. The data shows fluctuations in these two variables in the companies observed, thus indicating the potential for tax avoidance. There are differences in the results of previous studies regarding the influence of these two variables on tax avoidance, thus becoming a research gap. Therefore, this study aims to analyze the influence of inventory intensity and real earnings management on tax avoidance in mining sector companies on the IDX for the period 2020–2023.

This study focuses on the problem of low Cash Effective Tax Ratio (CETR) in several mining sector companies, namely PT Borneo Olah Sarana Sukses Tbk, PT Cita Mineral Investindo Tbk, and PT Hillcon Tbk during 2020–2023. The low and fluctuating CETR value indicates the potential for tax avoidance practices. In addition, the data shows that all three companies experienced fluctuations and a tendency towards high inventory intensity and real earnings management, two factors that have the potential to influence tax avoidance practices. The higher these two variables, the higher the profit and sales, thus encouraging management to avoid higher taxes. In conclusion, the high intensity of inventory and real earnings management are the main basis in formulating this research problem because they have the potential to encourage companies to do tax avoidance. Based on the research formulation, the formulation of the research problem is as follows (1) To determine the effect of inventory intensity on tax avoidance in Mining sector companies on the Indonesia Stock Exchange in 2020-2023. (2) To determine the effect of real earnings management on tax avoidance in Mining sector companies on the Indonesia

Stock Exchange in 2020-2023. (3) To determine the effect of inventory intensity and real earnings management on tax avoidance in Mining sector companies on the Indonesia Stock Exchange in 2020-2023.

## RESEARCH METHODS

This study is a quantitative study with an associative approach conducted on mining sector companies listed on the Indonesia Stock Exchange (IDX) during 2020–2023. Data was obtained through the website official [www.idx.co.id](http://www.idx.co.id), and the implementation of the research is planned to start from September 2024 until completion. The study population includes 42 companies, with a purposive sampling technique to determine the sample based on certain criteria, such as registered or delisted status and tax payment compliance during the study period. The data collection method in this study uses quantitative data in the form of financial reports of mining sector companies sourced from secondary data through documentation and literature studies. The data analysis technique used is multiple linear regression, preceded by descriptive statistical tests and classical assumption tests such as normality tests, heteroscedasticity, multicollinearity, and autocorrelation. Furthermore, a regression test was carried out to determine the effect of inventory intensity and real earnings management on tax avoidance. Hypothesis testing is carried out through partial tests (t), simultaneous tests (f), and coefficient of determination tests ( $R^2$ ) to see the extent to which the independent variables can explain the dependent variable.

## RESEARCH RESULT

### DESCRIPTIVE STATISTICAL TEST

**Table 1. Results of Descriptive Statistical Tests**

|                |         | CETR   | IP     | BRAKE   |
|----------------|---------|--------|--------|---------|
| N              | Valid   | 108    | 108    | 108     |
|                | Missing | 0      | 0      | 0       |
| Mean           |         | .4863  | .2490  | 1.1680  |
| Median         |         | .5000  | .2400  | .7350   |
| Mode           |         | .49    | .11a   | .01a    |
| Std. Deviation |         | .13469 | .15784 | 1.15609 |
| Minimum        |         | .05    | .00    | .01     |
| Maximum        |         | .83    | .80    | 5.12    |
| Sum            |         | 52.52  | 26.89  | 126.14  |

Based on the results of descriptive statistics, the variable of tax avoidance practices (Y) has a maximum value of 0.83, a minimum of 0.05, an average of 0.48, and a standard deviation of 0.134, indicating a normal distribution and even distribution of data. The variable of inventory intensity (X1) has a maximum value of 0.80, a minimum of 0.00, an average of 2.49, and a standard deviation of 0.15, also indicating a normal distribution. Meanwhile, the variable of real earnings management (X2) has a maximum value of 5.12, a minimum of 0.01, an average of 1.16, and a standard deviation of 1.15, which overall describes a normal data distribution and low deviation.

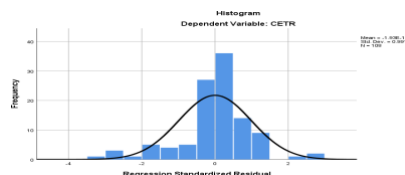
## CLASSICAL ASSUMPTION TEST

### NORMALITY TEST

**Table 2. Results of the Kolmogorov Smirnov Normality Test**

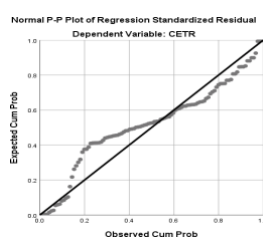
|                                  |                |           |
|----------------------------------|----------------|-----------|
| N                                |                | 108       |
| Normal Parameters <sup>a,b</sup> | Mean           | .0000000  |
|                                  | Std. Deviation | .13176647 |
| Most Extreme Differences         | Absolute       | .186      |
|                                  | Positive       | .088      |
|                                  | Negative       | -.186     |
| Test Statistics                  |                | .186      |
| Asymp. Sig. (2-tailed)           |                | 6.497c    |

Based on the results of the Kolmogorov Smirnov test that has been carried out, a significant value of  $6.497 > 0.05$  was obtained. According to Sugiyono (2016), if the significant value of normality through the Kolmogorov-Smirnov test  $> 0.05$ , it can be concluded that the data is normally distributed and vice versa. In the results of table 4.2 above, with a significant value of  $6.497 > 0.05$ , it can be concluded that the data is normally distributed.



**Figure 1. Histogram Normality Test Results**

Figure 1 shows a histogram graph that is bell-shaped and does not lean to the right or left, so the histogram graph is declared normal.



**Figure 2. Results of the P-Plot Normality Test**

Based on Figure 4.2 above, it shows that the probability plot has a normal distribution pattern because the data is around the diagonal line and follows the diagonal line. Thus, it can be said that this study meets the assumption of normality.

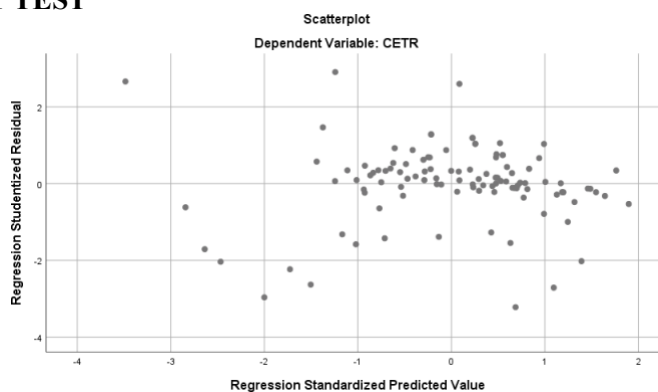
## MULTICOLLINEARITY TEST

**Table 3. Multicollinearity Test Results**

| Model |            | Collinearity Statistics |       |
|-------|------------|-------------------------|-------|
|       |            | Tolerance               | VIF   |
| 1     | (Constant) |                         |       |
|       | IP         | .997                    | 1.003 |
|       | BRAKE      | .997                    | 1.003 |

Based on the test results, variables X1 and X2 each have a tolerance value of 0.997 ( $> 0.10$ ) and a VIF of 1.003 ( $< 10$ ), so it can be concluded that there are no symptoms of multicollinearity in both variables and the data is normally distributed.

## HETEROSCEDASTICITY TEST



**Figure 3. Heteroscedasticity Test Results**

## AUTOCORRELATION TEST

**Table 3. Autocorrelation Test Results**

| Model | Durbin-Watson |
|-------|---------------|
| 1     | 1,852         |

Based on the data above, it is known that the DW (Durbin-Watson) value is 1.852, Durbin-Upper is 1.720 and Durbin-Lower is 1.643 where the interpretation of the value is more than  $1.720 < 1.852 < 4 - 1.720$ . Based on this, it can be concluded that there are no symptoms of autocorrelation in the study.

## MULTIPLE LINEAR REGRESSION ANALYSIS

**Table 5. Results of Multiple Linear Regression Analysis**

| Model |            | Unstandardized Coefficients |            |
|-------|------------|-----------------------------|------------|
|       |            | B                           | Std. Error |
| 1     | (Constant) | .540                        | .028       |
|       | IP         | .243                        | .082       |
|       | BRAKE      | -.015                       | .011       |

Based on the data results above, the following equation can be obtained:

$$Y = 0.540 + 0.243X_1 - 0.015X_2$$

From the regression equation above, the following conclusions can be drawn:

1. The constant (a) of 0.540 states that if the intensity of inventory and real earnings management is considered to have a value of 0, then the tax avoidance practice is 0.540%.
2. The value of the inventory intensity regression coefficient is obtained at 0.243 which indicates a positive unidirectional relationship. This states that, if the inventory intensity variable increases by 1, the tax avoidance practice variable increases by 0.243%.
3. The regression coefficient value of real earnings management is obtained at -0.015 which indicates a negative relationship. This states that, if the real earnings management variable increases by 1, the Tax Avoidance Practices variable decreases by -0.015%.

## HYPOTHESIS TEST

### T-TEST(PARTIAL)

**Table 6. Results of T-Test (Partial)**

| Model |            | T      | Sig. |
|-------|------------|--------|------|
| 1     | (Constant) | 19,380 | .000 |
|       | IP         | 2,964  | .000 |
|       | BRAKE      | -1.376 | .172 |

Based on the results of the t-test conducted, it can be concluded as follows: First, for the effect of Inventory Intensity on Tax Avoidance Practices, the calculated t value (2.964) is greater than the t table (1.938) and the significant value (0.000) is less than 0.05, so it can be concluded that Inventory Intensity has a positive and significant effect on Tax Avoidance Practices, and H1 is accepted. Second, for the effect of Real Earnings Management on Tax Avoidance Practices, the calculated t value (1.376) is smaller than the t table (1.938) and the significant value (0.172) is greater than 0.05, so it can be concluded that Real Earnings Management does not affect Tax Avoidance Practices, and H2 is rejected.

## F TEST (SIMULTANEOUS)

**Table 7. Simultaneous Test Results**

| Model |            | F     | Sig.  |
|-------|------------|-------|-------|
| 1     | Regression | 3.355 | .000b |
|       | Residual   |       |       |
|       | Total      |       |       |

Based on the statistical test f that has been conducted, all independent variables have a significant positive influence on the dependent variable. Based on table 4.7 the results of the f test are  $3.35 > t\text{-table}$  which is 3.08 and the Sig value is  $0.000 < 0.05$ . Based on the results of the test and hypothesis that have been conducted, it can be concluded that H3 is accepted.

## DETERMINATION TEST (R2)

**Determination Test Results Table (R2)**

| Model | Adjusted R Square |
|-------|-------------------|
| 1     | .430              |

Based on the results of the determination coefficient test, the Adjusted R Square value in this study is 0.430 or 43%. According to Sugiyono (2016), a good Adjusted R Square value should be more than 0.5 or 50%. This shows that the independent variables, namely inventory intensity and real earnings management, can explain 43% of the dependent variable, namely Tax Avoidance Practices. Meanwhile, the remaining 57% is influenced by other variables not examined in this study, such as company age, return on equity, profitability, liquidity, and other related variables.

## DISCUSSION

### 1. The Influence of Inventory Intensity on Tax Avoidance Practices in Mining Sector Companies

Based on the results of the multiple regression analysis test, the regression coefficient for inventory intensity is 0.243, which indicates a positive relationship. This means that if the inventory intensity variable increases by 1, then tax avoidance practices will increase by 0.243%. The results of the t-test show that the calculated t value (2.964) is greater than the t table (1.938) and the significance value is  $0.000 < 0.05$ , so it can be concluded that inventory intensity has a positive and significant effect on tax avoidance practices in mining sector companies. These results support the hypothesis that companies with high inventory intensity are more likely to engage in tax avoidance practices, because inventory allows companies to regulate revenue and expense recognition in order to reduce reported profits and tax liabilities. This phenomenon is in line with agency theory, which suggests that management can use accounting policies to minimize taxes paid. Previous research also supports this finding, which states that inventory intensity has a positive effect on tax avoidance.

### 2. The Influence of Real Earnings Management on Tax Avoidance Practices in Mining Sector Companies

Based on the results of the multiple regression analysis test, the regression coefficient for real earnings management (REM) is -0.015, indicating a negative relationship. This means that if REM increases by 1, then tax avoidance practices will decrease by 0.015%. However, the t-test shows that the calculated t value (-1.376) is smaller than the t table (1.938) with a significance value of  $0.172 > 0.05$ , which means that REM does not have a significant effect on tax avoidance practices in mining sector companies. These results reject the H2 hypothesis. REM tends to be used more for performance purposes and meeting profit targets, not for tax avoidance, so it does

not have a significant effect on tax avoidance. In addition, real economic decisions in REM, such as delaying or accelerating spending, will still affect cash flows that are still subject to tax. This study is not in line with previous studies which show that REM has a positive effect on tax avoidance, but is in line with research by Saribu, Muawanah & Farhan (2025), which states that REM has no effect on tax avoidance.

### **3. The Influence of Real Earnings Management on Tax Avoidance Practices in Mining Sector Companies**

Based on the results of the multiple regression analysis test, the regression coefficient of real earnings management (REM) is -0.015, which indicates a negative relationship with tax avoidance practices. This means that if REM increases by 1, then tax avoidance practices will decrease by 0.015%. However, the t-test shows that the calculated t value (-1.376) is smaller than the t table (1.938) with a significance value of  $0.172 > 0.05$ , which means that REM does not have a significant effect on tax avoidance practices in mining sector companies, so that the H2 hypothesis is rejected.

Although REM and tax avoidance can theoretically be related, REM is used more by companies to achieve accounting or performance goals, such as meeting profit targets or avoiding credit violations, rather than solely to avoid taxes. Profit manipulation through REM involving the management of expenses and income also does not result in significant tax avoidance because expenses are still taxed. The results of this study are inconsistent with several previous studies that showed REM has a positive effect on tax avoidance, but are in line with studies that state REM has no effect on tax avoidance.

### **4. The Influence of Inventory Intensity and Real Earnings Management on Tax Avoidance Practices in Mining Sector Companies**

Based on the results of the F statistical test, the independent variables significantly affect the dependent variable with an F value of  $3.35 > t\text{-table } 3.08$  and a significance value of  $0.000 < 0.05$ , so that the H3 hypothesis is accepted. High inventory intensity indicates that the company has a large inventory that causes high costs, which can reduce the tax burden and indicate tax avoidance practices. Meanwhile, real earnings management (REM) may not have a significant effect on tax avoidance in some conditions, although in theory the two are related. REM focuses more on accounting objectives and company performance than tax avoidance. Agency theory suggests that companies can utilize inventory intensity and REM to reduce tax burdens. Previous research also supports that these two variables have a positive effect on tax avoidance.

## **CONCLUSION**

Based on the results of the analysis and discussion that have been carried out, it can be concluded that inventory intensity has a positive and significant effect on tax avoidance practices in mining sector companies on the Indonesia Stock Exchange in 2020-2023. Meanwhile, real earnings management has no effect on tax avoidance practices in the same company. In addition, both variables, namely inventory intensity and real earnings management, simultaneously have a positive and significant effect on tax avoidance practices in mining sector companies on the Indonesia Stock Exchange in 2020-2023.

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