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# FACTORS AFFECTING THE PROFITABILITY OF COAL MINING COMPANIES LISTED ON THE INDONESIASTOCK EXCHANGE

**Dina Hidayat[1], Sarwo Edy Handoyo[2]**
*Professional Accounting Education, Tarumanagara University,*

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## ABSTRACT

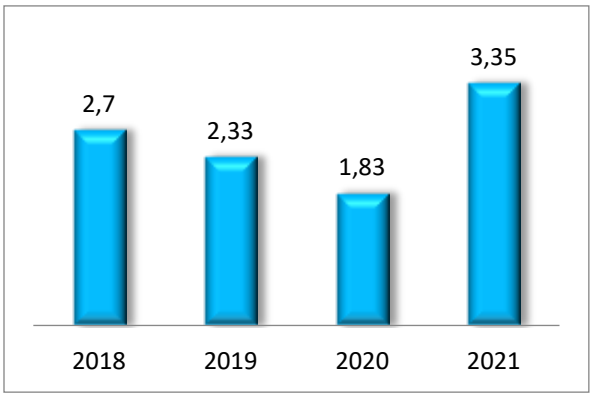
*Coal mining companies are the top three contributors to the national economy after the trade and retail sector and the agriculture and livestock sector. Coal mining companies show a negative trend in the achievement of return on assets (ROA), especially in 2021 as the peak experienced. This is none other than due to the Covid-19 pandemic thatis spreading and has resulted in many company sectors experiencing setbacks due to the regional restrictions imposed. This implies that the majority of companies fail to achieve maximum return on assets but many companies experience losses in 2021. This study aims to determine the effect of operational efficiency, working capital turnover, and asset turnover on the rate of return on assets of coal mining companies listed on the Indonesia Stock Exchange in 2018-2022. The method used in this study is panel data regression which combines time series data, namely 2018-2022 and cross section data in the form of 16 companies, then classical assumption tests and hypothesis testing are carried out. The results of this study indicate that operational efficiency (BOPO) has a significant negative effect on the rate of return on assets (ROA). While working capital turnover (WCTO) and total asset turnover (TATO) have a significant positive effect on the rate of return on assets (ROA).*

**KEYWORDS:** *Operational Efficiency (BOPO), Working Capital Turnover (WCTO), Total Asset Turnover (TATO), Return on Assets (ROA).*

## 1.INTRODUCTION

### Background

Indonesia is a country with abundant resources, especially in the mining sector. Mining reserves, including coal, are a sub-sector of the mining and quarrying business field which is the primary fuel for most companies. Coal mining companies are the top three contributors to the national economy after the trade and retail sector and the agriculture and livestock sector. However, in 2022, coal mining companies experienced a rapid increase in their contribution to GDP.



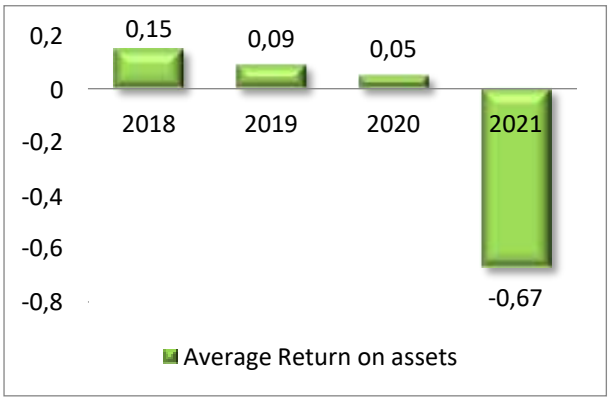

Contribution of Coal Mining Companies to GDP (Percent)Source: Central Bureau of Statistics, 2022.

In the 2018-2021 period, coal mining companies experienced significant fluctuations in their achievements in National GDP. This is due to the covid-19 pandemic phenomenon. The lowest achievement occurred in 2020, namely 1.83%, which was the peak year of the co-19 pandemic, resulting in financial performance in all industrial sectors experiencing a slowdown and even a very significant negative trend. However, in 2021 it gradually increased to 3.35%, showing the positive stretch of coal mining companies. This achievement cannot be separated from the financial performance of coal mining companies. Financial performance has indicators, one of which is the rate of return on assets.

In 2020, coal mining companies are still the largest contributor to state revenue through Non-Tax State Revenue (PNBP). As much as 85% of the total Minerba PNBP came from coal and

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in 2020 this achievement touched a figure of 110.15% of the set target. However, in 2019, the covid-19 pandemic phenomenon significantly targeted the mineral and coal sector. The financial performance of coal mining companies on average experienced a decrease in revenueor net profit of 20% to 50% on an annual basis in the first quarter of 2020 (Fadliansyah, 2020).




Average ROA of Mining Companies 2018-2021 (Percent)Source: Faradita & Damayanti, 2023.

Coal mining companies show a negative trend in the achievement of *return on assets* (ROA), especially in 2021 as the peak experienced. This is none other than due to the Covid-19 pandemic that is currently raging and has resulted in many company sectors experiencing setbacks due to the regional restrictions imposed. The average ROA decreased to -0.67% in 2021, implying that the majority of companies failed to achieve maximum return on assets but many companies experienced losses in 2021.

The rate of *return on assets* (ROA) is important in the company's financial performance because it reflects the ability of a company to generate profits from its assets or resources (Primatua, 2017). ROA provides a better measure of the company's profitability as a reflection ofthe effectiveness of management in using assets to generate revenue. Companies with a high rate of return on assets are stated to have reliable financial management capabilities and are successful in carrying out company operations within a certain period of time (Adang & Wijoyo, 2023). Companies with good asset returns will also be assessed by the public as having good financial performance (Ervina & Salim, 2021). With a high rate of return on assets, the task of financial management is also glimpsed because of its financial performance in managing a business that reaches the target (Larisa & Salim, 2021).

The rate of return on assets (ROA) is determined by earnings management that results in good financial performance so that the higher rate of return on assets obtained triggers the company's superior potential (Andriawan & Setiawan, 2020). The achievement of the rate of return on assets depends on the management of financial accountability carried out by the company to allocate funds for the company's operational activities (Indra, et.al., 2022). The company's role in providing capital and ensuring financial leverage also triggers an increase in the rate of return on assets (Setyawan, et.al., 2022). So that the return on assets report isconsidered as a picture of the company's efficiency in utilizing assets or maximum profit sharing (Widoatmodjo & Setyawan, 2023). Which in the end all boils down to attracting investor attention (Setijaningsih, et.al., 2021).

There are various influencing factors that can affect the increase or decrease in ROA of a company. This study uses operational efficiency, working capital turnover and total asset turnover based on previous research that has been done. Operational efficiency or operating expenses operating income (BOPO) is the ratio of operating costs and operating income, if the value is lower, the level of operational efficiency is getting better in a company (Kasmir, 2016). The rate of return on assets of a company is highly dependent on the operational efficiency of a company, the company will not get maximum profit if operational efficiency does not run well (Rosandy & Sha, 2022). According to research conducted by (Setyawan, etl.al 2023) states that BOPO has no significant effect on *return on assets*. Meanwhile, research (Dewi, 2018) and (Rasyid & Kurniawati, 2022) state that BOPO has a significant negative effect on *return on assets.*

*Working capital turnover* (WCTO) is a ratio measure of the effectiveness of the company's working capital in a certain period by comparing net sales and working capital (Kasmir, 2016). A high WCTO will show the higher the company's ability to manage working capital so that it has a good operational cycle and does not experience excess inventory. So that the better the operational cycle through the maximum WCTO ratio will increase the company's cash flow and income which leads to the rate of return on assets of a company. According to research conducted (Amelda, et.al 2022) and (Amanda, et.al 2023) WCTO has a significanteffect on net income with a *return on assets* indicator. Meanwhile, according to research conducted (Jastine & Susanto, 2020) and (Maisa, etal 2020), WCTO does not have a significant effect on profitability or *return on assets.*

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The third factor in this study is asset *turnover* or *total asset turnover* (TATO) which is a measure of the effectiveness of the company's assets in generating sales from each fund embedded in total assets (Hery, 2016). High TATO reflects that the company is very efficient in optimizing the use of assets to obtain maximum income. According to research conducted (Amelda, et.al 2022) and (Nurlaela, et.al 2019) TATO has a significant effect on net income with the *return on assets* indicator. Meanwhile, according to research conducted by (Setyawan, etl.al 2023) and (Prasetio, et. al 2021) stated that TATO has no significant effect on *return on assets.*

Based on the data and *research gaps* described above, this study aims to determine the effect of operational efficiency, working capital turnover, and asset turnover on the rate of return on assets of coal mining companies listed on the Indonesia Stock Exchange in 2018-2022. Analysis of the factors influencing the rate of return on assets is important considering that coal mining companies are a leading sector that dominates the contribution to national economic growth and financial performance reports are considered important by stakeholders such as the government and investors in relation to the ability of a company to generate profits from itsassets or resources.

**Problem Formulation**

Based on the background above, this research has the following problem formulations:

1. How does Operating Expenses and Operating Income (BOPO) affect the Profitability ofMining Companies listed on the IDX in 2018-2022?
2. How does *Working Capital Turnover* (WCTO) affect the profitability of mining companieslisted on the IDX in 2018-2022?
3. How does *Total Asset Turnover* (TATO) affect the profitability of mining companies listed onthe IDX in 2018-2022?

## 2. LITERATURE REVIEW

***Return on Assets***

According to Cashmere (2016) the rate of return on assets known as the yield ratio is a profit power ratio that defines the company's strength in generating maximum profit from the resources owned by the company (assets). If the ratio is greater, it is considered better becauseit reflects the company's success in using assets effectively to generate profits. The rate of return on assets is formulated as follows:

$$\text{Return On Assets} = \frac{\text{Earning After Tax}}{\text{Total Asset}}\ x\ 100\%$$

**Operational Efficiency (BOPO)**

According to Cashmere (2016) operational efficiency is the ratio of operating costs and operating income as a measure of the level of efficiency and the company's ability to carry outits operating activities. If the value is lower, the level of operational cost efficiency is getting better because with cost efficiency, the company's profits are getting bigger. The operational efficiency ratio is formulated as follows:

$$\text{Operasional Efficiency} = \frac{\text{Operating Cost}}{\text{Operating Income}}\ \text{x}\ 100\%$$

**Working Capital Turnover (WCTO)**

According to Cashmere (2016) Working capital turnover is a ratio measure of theeffectiveness of the company's working capital in a certain period by comparing net sales and working capital. A high WCTO will show the higher the company's ability to manage working capital so that it has a good operational cycle and does not experience excessinventory. So that the better the operational cycle through the good performance of WCTO will increase the company's cash flow and income which leads to the rate of return on assetsof a company. The working capital turnover is formulated as follows:

$$\text{Working Capital Turnover} = \frac{\text{Net Sales}}{\text{Working CApital}}\ \text{x}\ 100\%$$

**Total Asset Turnover (TATO)**

According to Kasmir (2016), asset turnover is a measure of the effectiveness of the company'sassets in generating sales from each fund embedded in total assets. High TATO reflects that the company is very efficient in optimizing the use of assets to obtain maximum income. The asset turnover is formulated as follows:

$$\text{Total Asset Turnover} = \frac{\text{Sales}}{\text{Total Asset}}\ \text{x}\ 100\%$$

## 2. RESEARCH METHODS

This research using quantitative methods has the aim of identifying the relationship between the variables used, testing the theory to get a generalization of the predictive value (Sugiyono, 2019). The data used in this study is panel data consisting of *cross section* and*time series data*. The *cross section* data used are 16 coal mining companies listed on the Indonesia Stock Exchange and *time series* data consisting of 2018 to 2022. This research uses Eviews software to conduct statistical testing.

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## DATA ANALYSIS TECHNIQUE

### a. Panel Data Regression Model Selection Test

*1. Chow Test*

Statistical testing on panel data which aims to choose the best model between
*Fixed Effect* or *Common Effect*. The hypothesis of this test is:
$H_0$ : accept *Common Effect* Model$H_1$ : accept *Fixed Effect* Model

If the probability value is greater than $\alpha = 0.05$ then $H_0$ is accepted which means that the *Common Effect Model* is the best model to use. However, if the probability value issmaller than $\alpha = 0.05$ then $H_1$ is accepted, which means that the *Fixed Effect Model* is the best model that can be used. However, if $H_0$ is rejected, the FEM must be tested again to choose between FEM and REM as the best model to use.

*2. Hausman Test*

The Hausman test is a statistical test on the panel data regression model which aims to choose the best model between the *Fixed Effect Model* or the *Random Effect Model*. This specification will provide a *chi-square statistic* so that the mode selection decision can be determined statistically. The hypothesis of this tester is :

$H_0$ : *Random Effect* Model$H_1$ : *Fixed Effect* Model
If the probability value is greater than the significance level $\alpha = 0.05$ then H0 is accepted, meaning that the *Random Effect Model is the* best model to use, but if the probability value is smaller than the significance level $\alpha = 0.05$ then H1 is accepted, meaning that the *Fixed Effect Model* is the best model that can be used.

3. *Lagrange Multiplier* Test *(LM Test*)

The lagrange multiplier test is the value of statistical testing to determine betweenthe *Random Effect Model* and the *Common Effect Model* which is most appropriate for panel data estimation. The hypothesis of this test is:
$H_0$ : *Common Effect* Model$H_1$ : *Random Effect* Model

### b. Classical Assumption Test

The classic assumption test is carried out to ensure that the regression model is not infected with classic assumption problems (Ghozali, 2018).

1. Normality Test
   The normality test is carried out to check whether a normal distribution exists in the independent and dependent variables in the regression model. Statistical test results will be affected if the distribution is not normal. The normality test in this study uses the *Jarque-Bera* test to detect data distribution (Ghozali, 2018).
2. Multicollinearity Test
   The multicollinearity test aims to determine whether there is a correlation between the independent variables in the regression model. This test decision is based on the correlation between independent variables. If the correlation coefficient value is greater than 0.8, it can be said that multicollinearity occurs and if the correlation coefficient value of each independent variable is less than 0.8, multicollinearity doesnot occur (Ghazali, 2018).
3. Heteroscedasticity Test
   The heteroscedasticity test is used to check whether there are differences in the *variance of the* residuals between observations in the regression model. In this study, the Glejser test is used to evaluate the absolute residual value against the independent variable. This study uses the Heteroscedasticity Test by looking at the *cross-section LR test* value. In the *cross-section LR test,* if the *pro chi-square* value is> from 0.05 then there is no heteroscedasticity problem (Ghazali, 2018).
4. Autocorrelation Test
   Testing for autocorrelation in a model is aimed at checking for a correlation between the values of variables during a particular time period and the values of variables in the previous period Autocorrelation occurs when successive observations in time are related. The ideal regression model is free of autocorrelation (Ghazali, 2018). The clue for this test is related to the Durbin-Watson or D-W value, namely:
   a. A D-W number below -2 indicates positive autocorrelation
   b. D-W numbers between -2 and +2 indicate the absence of autocorrelation(independent)
   c. D-W number above +2 indicates negative autocorrelation

### c. Panel Data Regression Analysis

The panel data regression equation in this study is as follows:

$$ROA_{it} = \alpha + \beta\ BOPO + \beta_{11it2}\ WCTO + \beta\ TATO_{2it33it} + e$$

Description:
ROA = Return on Assets
α = constant
β = Variable coefficient BOPO = Operating Efficiency WCTO = Working capital turnoverTATO = Total asset turnover
t= year 2018-2022
i= companye= *error term*

### d. Hypothesis Test

1. Partial Test

The t test is used to determine how the effect of each independent variablepartially on the dependent variable. The independent variables used in this study are Operational Efficiency (X1), Working Capital Turnover (X2) and Total Asset Turnover (X3) while the dependent variable used is the Asset Return Rate (Y) The partial test shows how much influence each independent variable has on the dependent variable individually. In this study, the significance level of the partial test is 5% (Ghazali,2018).

2. Simultaneous F Test

The Simutan F test aims to assess whether the independent variables jointly affectthe dependent variable. In this study, the significance level of the f statistical test is 5% (Ghazali, 2018). With the following decision-making requirements:

a. Prob. F-statistic < α = 0.05 then H1 is accepted. The independent variable simultaneously affects the dependent variable.
b. Prob. F-statistic > α = 0.05 then H0 is accepted. Independent variables simultaneously do not affect the dependent variable.

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3. Determination Test

The coefficient of determination ($R^2$) is used to measure how well the model can explain the variation in the dependent variable caused by the independent variable. The $R^2$ value ranges between 0 and 1, where a value close to one indicates that the independent variable provides significant information to predict changes in the dependent variable (Ghazali, 2018).

The following are 16 coal mining companies listed on the Indonesia Stock Exchange which are used as research samples:

**Table 1. Sample of Listed Coal Mining Companieson the Indonesia Stock Exchange**

| NO | COMPANY NAME |
|---|---|
| 1 | PT Transcoal Pacific Tbk (TCPI) |
| 2 | PT Baramulti Suksessarana Tbk (BSSR) |
| 3 | PT Bumi Resources Tbk (BUMI) |
| 4 | PT Bayan Resources Tbk (BYAN) |
| 5 | PT Adaro Energy Tbk (ADRO) |
| 6 | PT Dian Swastatika Sentosa Tbk (DSSA) |
| 7 | PT Harum Energy Tbk (HRUM) |
| 8 | PT Indo Tambangraya Megah Tbk (ITMG) |
| 9 | PT Bukit Asam Tbk (PTBA) |
| 10 | PT Golden Eagle Energy Tbk (SMMT) |
| 11 | PT TBS Energi Utama Tbk (TOBA) |
| 12 | PT Mitrabara Adiperdana Tbk (MBAP) |
| 13 | PT Resource Alam Indonesia Tbk (KKGI) |
| 14 | PT Golden Energy Mines Tbk (GEMS) |
| 15 | PT Atlas Resources Tbk (ARII) |
| 16 | PT Indika Energy Tbk (INDY) |

Source: Indonesia Stock Exchange, 2022.

## 4. RESULTS AND DISCUSSION

### a. Panel Data Regression Model Selection Test

1. ***Chow* test**

Statistical testing on panel data which aims to choose the best model between the *FixedEffect Model* or the *Common Effect Model*.

**Table.1 Chow Test Results**

| Effects Test | Statistic | d.f. | Prob. |
|---|---|---|---|
| Cross-section F | 118.230953 | (21,85) | 0.0000 |
| Cross-section Chi-square | 374.899030 | 21 | 0.0000 |

Source: Eviews Data Processing, 2024.

From the results of the *Chow* Test data processing, the cross-section F probability value is 0.0000. This result shows that the cross-section F probability value < α of 0.05, thus indicating that $H_0$ is rejected and $H_1$ is accepted, so the better model to use is the *Fixed Effect Model* (FEM).

b. *Hausman* Test

Statistical testing on panel data which aims to choose the best model between the *Random Effect Model* or the *Common Effect Model*.

**Table.2 *Hausman* Test Results**

Test cross-section random effects

| Test Summary | Chi-Sq. Statistic | Chi-Sq. d.f. | Prob. |
|---|---|---|---|
| Cross-section random | 2.224963 | 3 | 0.0270 |

Source: Eviews Data Processing, 2024.

Based on the results of the Hausman test in the table, the probability value on the *randomcross-section* is 0.0000 < α (0.05). So it can be concluded that $H_0$ is rejected and $H_1$ is accepted, thus the chosen and most appropriate model to use is the *Fixed Effect Model* (FEM).

Based on the *Chow* Test and *Hausman* Test, the selected panel data regression *model* isthe *Fixed Effect Model* (FEM).

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**b. Classical Assumption TestMulticollinearity Test**

**Table.3 Multicollinearity Test Results**

| | X1_BOPO | X2_WCTO | X3_TATO |
|---|---|---|---|
| X1_BOPO | 1.000000 | 0.130806 | 0.040633 |
| X2_WCTO | 0.130806 | 1.000000 | 0.138807 |
| X3_TATO | 0.040633 | 0.138807 | 1.000000 |

Source: Eviews Data Processing, 2024.

Based on the results of the Multicollinearity Test, the correlation value between each independent variable is less than 0.8. So it can be concluded that there is no multicollinearity problem between the independent variables in this research model.

**Heteroscedasticity Test**

**Table.3 Heteroscedasticity Test Results**

| Panel Cross-section Heteroskedasticity LR Test | | | |
|---|---|---|---|
| Null hypothesis: Residuals are homoscedastic | | | |
| | Value | Df | Probability |
| Likelihood ratio | 9.154752 | 4 | 0.1573 |

Source: Eviews Data Processing, 2024.

Based on the table above, the probability value of the *Likelihood Ratio (LR)* statistic 0.1573 is greater than $\alpha = 0.05$, so the homoskedastic variance is accepted and it can be concluded that there is no heteroscedasticity problem.

**2. Panel Data Regression Analysis**

**Table.5 *Fixed Effect* Regression Model**

Dependent Variable: Y_ROA
Method: Panel Least Squares
Sample: 2018 2022
Periods included: 5
Cross-sections included: 16

| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|---|---|---|---|---|
| C | 1.308554 | 1.031152 | 9.904956 | 0.0000 |
| X1_BOPO | -1.284386 | 0.294885 | -4.355553 | 0.0001 |
| X2_WCTO | 2.600005 | 0.000147 | 0.176724 | 0.0003 |
| X3_TATO | 0.099376 | 0.029305 | 3.391103 | 0.0012 |

| | |
|---|---|
| Adjusted R-squared | 0.668687 |
| Prob(F-statistic) | 0.000000 |
| Durbin-Watson stat | 1.511209 |

Source:DataViews,2024.

Based on the *Fixed Effect Model* panel data regression results, the following regression equation is obtained:

$$\mathbf{ROA_{it} = 0.308554 + -1.284386BOPO_{1it} + 2.600005WCTO_{2it} + 0.099376TATO_{3it}}$$

The panel data regression results with the *Fixed Effect Model* estimation model show a constant value of 1.308554. This value means that if the value of the independent variables, namely Operational Efficiency, Working Capital Turnover and Total Asset Turnover, is considered constant, the Asset Return Rate is 1.308554. The natural constant of this study is positive.

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### 3. Hypothesis TestT Test Statistics

**Table.6 T-test Results**

| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|---|---|---|---|---|
| C | 1.308554 | 1.031152 | 9.904956 | 0.0000 |
| X1_BOPO | -1.284386 | 0.294885 | -4.355553 | 0.0001 |
| X2_WCTO | 2.600005 | 0.000147 | 0.176724 | 0.0003 |
| X3_TATO | 0.099376 | 0.029305 | 3.391103 | 0.0012 |

Source: Eviews Data Processing, 2024.

The BOPO variable has a significant negative effect on the value of the rate of return on assets of coal mining companies with a probability value of 0.0001, smaller than α = 0.05. This means that an increase in Operational Efficiency by 1% will reduce the return on assets of coal mining companies by 1.284386%.

The WCTO variable has a significant positive effect on the return on assets of coalmining companies with a probability value of 0.0003, smaller than α = 0.05. This means that an increase in Working Capital Turnover by 1% will increase the rate of return on assets of coal mining companies by 2.600005%.

The TATO variable has a significant positive effect on the rate of return on assets of coal mining companies with a probability value of 0.0012, smaller than α = 0.05. This means that an increase in Total Asset Turnover by 1% will increase the rate of return on assets of coal mining companies by 0.099376%.

**Simultaneous F Test**

Based on the regression results in table.5, the probability value *(F-statistic)* of 0.000000is smaller than α = 0.05. Indicates that the variables of operational efficiency, working capital turnover, and total asset turnover have a simultaneous influence on the rate of return on assets of coal mining companies.

**Coefficient of Determination**

Based on the regression results in table.5 shows the R-Squared value of 0.668687, namely the rate of return on assets of coal mining companies can be explained by operational efficiency variables, working capital turnover, and total asset turnover of 66.8687%, while 33.1313% is explained by other variables outside the study.

## DISCUSSION

**The Effect of Operational Efficiency on the Return on Assets of Coal Mining Companies**

Based on the results of data analysis, operational efficiency has a significant negative effect on the rate of return on assets of coal mining companies, it can be seen from the probability value of 0.0001 smaller than α = 0.05 and a negative coefficient of -1.284386. This means that an increase in operational efficiency by 1% will reduce the rate of return on assets of coal mining companies by 1.284386%.

The results of this study are also in accordance with the theory put forward by Kasmir (2016) that the smaller the operating income, the lower the operational efficiency of a company and the impact on the rate of return on assets. The results of this study are supported by research conducted by Dewi (2018) which states that BOPO has a significant negative effect on the rateof return on assets. This condition occurs due to any increase in the company's operating costs will result in reduced profit before tax earned which in turn reduces the company's rate of return on assets. Then the high BOPO is also caused by high operating costs and low interest income from capital investment. Furthermore, the same thing is also revealed by the research of Rasyid& Kurniawati (2022) which states that BOPO has a significant negative effect on the rate of return on assets because high operating costs can reduce the company's operating income therebyreducing the rate of return on assets periodically.

The results of this study are also in line with research data that coal mining companies with a high level of operational efficiency have a lower return on assets. As happened in PT Baramulti Suksessarana Tbk (BSSR) with the highest BOPO achievement in 2022 among 16 coal mining companies sampled in the study, it has a BOPO level of 15.07% and has an ROA achievement of 59.26%. The rate of return on assets is smaller than PT Golden Energy Mines Tbk (GEMS) which has an ROA achievement of 60.26% with a lower BOPO level of 13.62%.

**The Effect of Working Capital Turnover on the Return on Assets of Coal Mining Companies**

Based on the results of data analysis, working capital turnover has a significant positive effect on the rate of return on assets of coal mining companies, it can be seen from the probability value of 0.0003 smaller than α = 0.05 and a positive coefficient of 2.600005. This means that an increase in working capital turnover of 1% will increase the rate of return on assetsof coal mining companies by 2.600005%.

These results are in accordance with the theory expressed by Cashmere (2016) that a highWCTO will show the higher the company's ability to manage working capital so that it has a good operational cycle and does not experience excess inventory so that the return on assets is easier to maximize. The results of this study are also supported by research conducted by Amelda, et.al (2022) which states that working capital turnover or WCTO has a significant positive effect on the rate of return on assets. High working capital turnover in line with the shorter period owned will raise the possibility of the company to earn profits from sales and working capital that is increasing. WCTO which tends to be high will also stimulate the acceleration of funds invested into working capital back into cash or in other words the company is more effective in carrying out transaction activities so that the rate of return on assets will be received more quickly. The same thing is also stated in the research of Amanda, et.al (2023) that a high WCTO indicates

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the greater cash flow received by the company, thus creating an opportunity for the company's profitability to grow in the future.

Based on research data, PT Golden Energy Mines Tbk (GEMS) is a company that has WCTO achievements that have always increased significantly from 2018 to 2022 and has never experienced collapse. In line with this, the ROA achievement of PT Golden Energy Mines Tbk (GEMS) was the highest in 2022, which was 60.26% greater than other coal mining companies used in the research data.

**The Effect of Total Asset Turnover on the Return on Assets of Coal Mining Companies**

Based on the results of data analysis, total asset turnover has a significant positive effect on the rate of return on assets of coal mining companies, it can be seen from the probability value of 0.0012 smaller than $\alpha = 0.05$ and a positive coefficient of 0.099376. This means that an increase in total asset turnover of 1% will increase the rate of return on assets of coal mining companies by 0.099376%.

The results of this study are also supported by Amelda, et.al (2022) which states that a high level of total asset turnover greatly supports the company's activities in sales effectively and the greater the company gets a large profit which impacts the rate of return on assets. A highlevel of total asset turnover also shows that the company is reliable in managing assets so that it has an impact on increasing sales. Then the same thing was also revealed by Nurlaela, et.al (2019) that total asset turnover has a significant effect on net profit with an indicator of the rateof return on assets. *The* company's success in utilizing assets will increase the level of sales so that the proportion of the rate of return on assets goes up.

Based on research data, PT Golden Energy Mines Tbk (GEMS) as a company with the highest rate of return on assets in 2022 among 16 coal mining companies used in the research

sample, it turns out that it also has the highest total asset turnover achievement as well, reaching 3.09% and once again proving that companies with high total asset turnover rates get high ratesof return on assets as well. From this data, it can be seen that the company really optimizes the use of its assets in generating income.

## 5. CONCLUSIONS AND SUGGESTIONS

**Conclusion**

Based on the results and discussion, the research conclusions are as follows:

a. The operational efficiency variable is proven to have a significant negative effect on therate of return on assets.
b. The working capital turnover variable is proven to have a significant positive effect on therate of return on assets.
c. The total asset turnover variable is proven to have a significant positive effect on the rateof return on assets.

**Advice**

Coal mining companies in Indonesia can maximize financial performance, especially in working capital turnover and total asset turnover to increase the company's return on assets which can also have an impact on the attractiveness of investors to invest in coal miningcompanies because they are considered potential in future prospects if they achieve a good asset return rate within a certain period. The company management also needs to be more vigorous in maintaining the level of operational efficiency because it is very important for the company's income.

For further research, it is hoped that it is not only limited to variables in the economic field but can extend to social and other fields to prove its influence on the rate of return on assets of coal mining companies. The research period can also be updated considering the dynamics of the financial performance of coal mining companies continues to run so it is necessary toconduct research regularly.

## REFERENCES

1. *Adang, F., Wijoyo, A. (2023). Factors Affecting Audit Report Lag in Manufacturing Companies in Indonesia. Scientific Journal of Civilization Accounting. 9(1), 118-134.*
2. *Amanda, N., Sahabuddin, R., & Nurman. (2023). Working capital turnover analysis of profitability levels at PT Semen Indonesia (Persero) Tbk. Economic and Business Journal, 1(4), 285.*
3. *Amelda, R. S., Baining, M. E., & Khairiyanic. (2022). The effect of activity ratios on net incomein the sharia securities list for the 2018-2020 period. JURIMEA, 2(2).*
4. *Andrianto, Firmansyah, A. (2019). Islamic Bank Management. CV Qiara Media Publisher,Pasuruan.*
5. *Andriawan, Setyawan, I. R. (2020). Earning Management Actions and Conditional Revenue as Managerial Efforts to Maintain Bond Rating. The Indonesian Journal of Accounting Research, 23(3), 349-372.*
6. *Azmy, A. (2018). Analysis of the Effect of Financial Performance Ratios on the Profitability of Islamic People's Financing Banks in Indonesia. Journal of Accounting, 22(1), 119-137.*
7. *Central Bureau of Statistics (2022). GDP Distribution at Current Prices. Accessed on February 03, 2024 from https://www.bps.go.id/id/statistics-table/2/MTA2IzI=/-seri-2010--distribusi-pdb-triwulanan-seri-2010-atas-dasar-harga-berlaku--persen-.html.*
8. *Darmawan. (2020). Basics of Understanding Ratios and Financial Statements. Yogyakarta.*
9. *Dewi, A. S. (2017). The effect of CAR, BOPO, NPL, NIM, and LDR on ROA in companies in the banking sector listed on the IDX for the period 2012-2016. Pundi Journal, 1(3), 223.*
10. *Ervina, N., Salim, S. (2021). Analysis of Factors Affecting Audit Report Lag in 2019-2020.*
a. *Journal of Economics, 26(11), 37-58.*
11. *Fadliansyah, M. E. (2020). The Performance of Coal Issuers Plummeted Due to Pandemic and Price Decline. Accessed on February 03, 2024 from https://www.google.com/amp/s/katadata.co.id/amp/happyfajrian/finansial/*
12. *5f353137a1d66/performance-of-coal-stone-emitters-drops-impacted-by-pandemic-and- declining-prices.*
13. *Faradita, L., Damayanti. (2023). Financial Distress Analysis Before and During the Covid-19 Pandemic (Case Study of Mining Companies Listed on the Indonesia Stock Exchange. Journal of Competitive Business, 1(11), 937-949.*

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14. *Francis, H. (2020). Analysis of Company Financial Performance. Banten: Desanta Muliavisitama.*
15. *Hery. (2016). Financial Statement Analysis. Jakarta: Grasindo.*
16. *Hidayat, W. W. (2018). Basic Book of Financial Statement Analysis. Jakarta: Uwais Inspirasi Indonesia.*
17. *Indra., Iskak, J., Khaq, A. (2022). Enhancing the Role of the Audit Board of the Republic of Indonesia in Fraud Detection. Journal of State Financial Governance and Accountability, 8(2), 131-143.*
18. *Irham, F. (2017). Financial Performance Analysis. Bandung: Alfabeta.*
19. *Jastine, V., & Susanto, L. (2020). Factors that affect the profitability of manufacturing companies listed on the IDX. Tarumanagara Journal of Multiparadigm Accounting, 2,1296-1305.*
20. *Cashmere. (2016). Introduction to Financial Management, 2nd Edition, Jakarta: Kencana. Cashmere. (2019). Financial Statement Analysis. First Edition Twelfth Mold. Jakarta: PT Raja Grafindo Persada.*
21. *Larisa, E., Salim, S. (2021). Analysis of the Effect of Company Characteristics on Audit Report Lag 2019-2020. Journal of Economics, 26(11), 83-102.*
22. *Nurlaela, S., Mursito, B., Kustiyah, E., Istiqomah, & Hartono, S. (2019). Asset turnover, capital structure and financial performance consumption industry company in Indonesia stock exchange. International Journal of Economics and Financial Issues, 9(3), 297-301.*
23. *Prasetio, A. E., Al Azizah, U. S., & Daulay, Y. (2021). The effect of total assets turnover, current ratio and financial technology on the profitability of banking companies in Indonesia. Scientific Journal of Management and Business, 7(2), 253-262.*
24. *Rasyid, R., & Kurniawati, H. (n.d.). Credit risk, efficiency and bank financial performancebefore and time of the Covid-19 pandemic. Advances in Social Science, Education and Humanities Research, 655.*
25. *Rosandy, N., Sha, T. L. (2022). The Effect of CAR NIM, LDR, and BOPO on ROA in Banking on the IDX. Journal of Multiparadigm Accounting, 4 (4), 1566-1576.*
26. *Setijaningsih, H. T., Handoyo, S. E., & Sundari, N. (2021). Factors Affecting the Selection of Fair Value Methods for Investment Property. Journal of Organization and Management, 17(1), 111-121.*
27. *Setyawan, I. R., Ekadjaja, M., Ekadjaja, A., (2022). Industry Market Structure and Banking Performance in Indonesia. Academic Journal of Interdisciplinary Studies, 11(2), 346.*
28. *Setyawan, N. B., Paidi, W.S., & Ishak, G. (2023). Effect of total asset turnover (TATO), BOPO, debt to asset ratio through firm size as moderation variables on return on assets (ROA) at PT Pelabuhan Indonesia (Persero). Economic Journal, 2(8).*
29. *Siswanto, E. (2019). Basic Financial Management. Malang: State University of Malang. Widoatmodjo, S. Setyawan, I. R. (2023). Special Treatment to Bank CEOs in Indonesia. Academic Journal of Interdisciplinary Studies, 12(2), 1.*