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THE EFFECT OF *LEVERAGE* AND OPERATING CASH FLOW ON *FINANCIAL DISTRESS* WITH PROFITABILITY AS A MODERATION VARIABLE IN MINING COMPANIES LISTED ON THE INDONESIA STOCK EXCHANGE (IDX) 2019-2022 PERIOD

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Abstract: This study aims to determine the effect of leverage proxied by DAR, and operating cash flow on financial distress conditions, moderated by profitability proxied by ROA, in mining companies listed on the IDX in 2019-2022. The data used in this research are secondary data, namely annual reports of mining companies obtained from the official websites of the companies and the Indonesia Stock Exchange. This research was processed using Eviews 12 software with multiple regression analysis methods and moderate regression analysis (MRA). The population of this study was all mining companies listed on the Indonesia Stock Exchange in 2019-2022, a total of 60 companies, and the final 29 companies were selected using a purposive sampling technique. The results of this study concluded that leverage has a significant positive effect on financial distress. Operating cash flow has a significant positive effect on financial distress. Profitability is able to moderate the effect of leverage on financial distress. However, profitability cannot moderate the effect of operating cash flow on financial distress.

Keywords: *Financial Distress, Leverage, Operating Cash Flow, Profitability*

Background

The Covid-19 pandemic that has hit countries in the world including Indonesia, has disrupted several economic sectors in Indonesia, from the industrial sector, property, and manufacturing to the mining sector. Some of the economic activities carried out were hampered such as production activities, it was recorded that in May 2020 coal production activities had decreased by up to 10 percent based on the same period in 2019 (ESDM, 2020). Apart from affecting production, the impact of the pandemic has also affected state revenue by around 20 percent.

The very diverse and varied economic conditions as a result of the increasing development of the business world need special attention, especially for the business actors themselves in order to *survive* (Sari et al., 2022). Management plays an important role in controlling *the* company's performance which results in

financial performance. In addition, management plays a role in predicting the company's financial condition earlier by applying financial ratio analysis (Kalimah, 2017). If the company is not careful in making decisions in Indonesia's unstable economic conditions, the company will experience losses such as a decrease in investor and consumer confidence in the company.

Recently there has been a phenomenon in Indonesia delisting several companies in the last five years. There are several reasons for *delisting*, in general *delisting* can be in the form of *voluntary delisting* or *forced delisting*. Companies that voluntarily have diverse backgrounds, usually merge occur, or wish to become private (closed) companies.(Kuntari et al., 2021).

Research that uses only a single variable is still lacking in predicting company *financial distress*. So, in order to strengthen this prediction, this study added a moderating variable as a combination variable (Kuntari et al., 2021). Profitability ratio as a moderating variable using *Return on Assets* (ROA), to determine whether ROA strengthens or weakens the relationship between *leverage* and operating cash flow in *financial distress*. ROA is a ratio that describes a company's performance with profit from sales. Therefore, to avoid a decline in financial condition or bankruptcy the company must carry out proper management, in this case, *return on assets* (ROA). *Return on assets* is a type of profitability ratio, which in its measurement is used to assess how well a company is performing in generating net profit from the utilization of its assets (Susanto et al. 2021). In considering the effectiveness of the industry to create profits, the assets owned must be utilized by the company.

Return on assets can predict the probability of bankruptcy in manufacturing companies listed on the Indonesia Stock Exchange (Holili et al., 2021). The higher the company's *return on assets* indicates the company's ability to generate profits from the greater the total assets used. Thus, if the company's performance is getting better, the probability of bankruptcy is less likely. ROA is very useful for company management in managing operational activities within the company. The higher the ROA, the greater the rate of *return/payback* received by the company. However, Fatimah et al., (2019)it is different because after analysis it turns out that *leverage* brings positive feedback to *financial distress.* A company will not be far from debt, almost all companies have debt to run their company, therefore *leverage* is used to detect that debt does not exceed the company's ability to pay (Fatimah et al., 2019a).

Previous research related to the relationship of *leverage* to *financial distress* has been carried out by (Edwar et al. 2020), (Effendi et al. 2022), (Sintia et al. 2022), and (Fatimah et al., 2019a)proves that the projected *leverage results with DAR have a negative relationship to the company's financial distress condition*. If the DAR value gets smaller, the company is able to pay its debts so that the company is safe from bankruptcy. However, in contrast to the research conducted by (Kristiana et al., 2021), (Sugiharto et al., 2021), (Betari et al., 2023), (Wardhana et al., 2021), (Adinda et al. 2020)in this study shows that *leverage* has a positive relationship with *financial distress.* If there is an increase in the value of DAR, the value of *financial distress* will also increase. In addition, research conducted by (Linda et al. 2022), (Mulyatiningsih et al. 2021), (Faldiansyah et al., 2020), and (Dianova et al. 2019)shows that *leverage* does not have a significant effect on *financial distress*.

In the context of operating cash flow, other studies conducted by Fitri et al., (2020)the relationship between operating cash flow and *financial distress* show that this operating cash flow does not have any impact on *financial distress.* Things like this can be caused by other company cash flow activities. In addition to studies conducted by (Fitri et al. 2020), studies conducted by (Febriyan et al. 2019), (Isdina et al. 2021), (Kristiana et al., 2021)agree that operating cash flows do not have any impact on the company's *financial distress*. Unfortunately, this was ignored by a study conducted by Livia et al., (2019)after conducting a study that turned out that operating cash flows generate reciprocity in a positive sense towards *financial distress.* Studies conducted on agricultural sector companies have an impact on *financial distress,* operating cash flow as an indicator for investors to determine the condition of the company. Livia et al., (2019)Using a proxy for operating cash flow, it will be measured through a ratio using the formula for operating cash flow divided by total liabilities.

Sourced from the phenomena that are happening at this time, the researchers are looking for evidence in previous research with a more recent period. Because the results of previous studies were inconsistent, this study conducted another study with a different year period and whether there was a new phenomenon and whether this had an impact on the company's financial condition. 2020-2022 is the year the Covid-19 phenomenon occurs and the transition period from Covid-19 to the *new normal period.*

THEORETICAL FRAMEWORK

Theory of Pecking Order

Pecking order theory states that companies prefer internal funding to external funding, safe debt to risky debt and the last is common stock (Myers, 1984). This theory states that companies tend to prefer funding that comes from internal companies rather than external ones. The use of external funding is carried out when the company's internal funds are insufficient. According to the *pecking order* theory, funds that are considered cheap are internal funds because the company is not responsible for issuance costs (Putri et al. 2021). The order put forward in this theory is retained earnings, debt, and preferred stock and the last is common stock. This funding sequence shows that this funding is based on the level of risk of decisions and costs of funding sources from the cheapest to the most expensive (Sartono, 2015).

Financial Distress

Arifin (2018) said *Financial distress* is the insufficiency of the company's operating cash flow in paying off the company's obligations in this case *financial distress* can be seen as the failure of a company to pay off its obligations and the inability of the company to generate sufficient cash flow to make payments according to the contract. *Financial distress* is an early warning of impending bankruptcy in a company. According toAndriani et al., (2021) there are several indicators to measure *financial distress* namely *"Z-Score Model; Springate Model,*

Zmijewski Model, and Grover Model. Companies with low profitability or profits have the potential to experience bankruptcy according to *the Z-Score Model. The Zmijewski Model* is calculated from a combination of *Return on Assets* (ROA) and *Debt to Asset Ratio* (DAR), if the result is more than (zero), the company will go bankrupt and vice versa. *The Springate Model* is calculated using 4 financial ratios if the result is less than 0.862 then the company is in a *"distress" condition*. *The Grover Model* is calculated using 3 financial ratios if the result is more than 0.01 then the company is declared healthy.

Leverage

The emerging bankruptcy prediction model is an anticipation and early warning system for *financial distress* because this model can be used as an indicator to identify and even improve the situation before it becomes a condition of *financial distress* or bankruptcy. The financial ratio used in measuring bankruptcy prediction is *leverage. Leverage* can be interpreted as the amount of financial debt on *assets* in the financial *asset structure*. The ratio of debt capital or *leverage* describes the extent to which the owner's capital can cover debts to outsiders and is a ratio that measures the extent to which a company is financed by debt (Kasmir, 2018). This study calculates the *leverage ratio* proxied using *the Debt Assets Ratio* (DAR), namely by calculating the Fatimah et al. (2019)value of Rissi et al., (2021)the company is using assets from debt *funds*.Affiah et al., (2018)

Operating Cash Flow

The cash flow statement is a report that describes the company's cash inflows and cash outlays during a certain period. The cash flow statement is a report that is relatively difficult to manipulate because there are no *accrual* and *deferral components*. One element of cash flow that is quite vital and is considered by stakeholders is operating cash flow. The main goal is none other than for companies to be able to track how much cash income will be used to purchase *assets* such as machinery, materials, and other tools to produce goods or services that will be traded to consumers, and how much cash is spent such as bank interest payments and dividends to *stockholders* because it is necessary for companies to make cash flow statements. In the study of Rissi et al., (2021)measuring operating cash flows using projected operating cash flows divided by the company's total debt, in its operational activities the company requires funding from other parties, this funding must be repaid at a later date, companies with healthy operating cash flows can cover debts owned by the company, because the company can avoid the possibility of *financial distress.* In research, Febriyan et al., (2019)operating cash flow will be measured through the ratio with the operating cash flow formula divided by total liabilities. Comparing the operating cash flow with this total liability will provide an overview of the company's debt repayment ability in the future. The ratio of the company's operating cash flow that is getting bigger will also show that the company has not failed in running its business.

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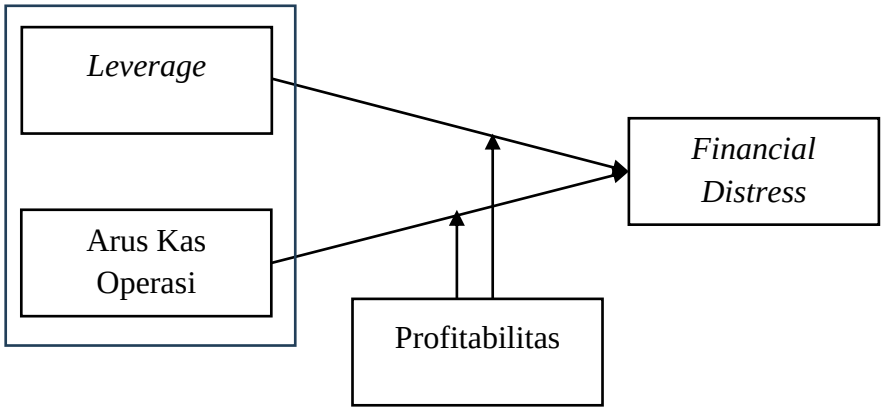
Profitability

Profitability reflects how much a company is able to generate comprehensive profits, converting sales into profits and cash flow (Kristiana et al., 2021). Quoting from Hosea et al., (2020)profitability is a ratio that measures a company's ability to generate profits by using all the resources owned by the company. The calculation of this financial ratio analysis can be used as a performance evaluation and assessment tool, especially from a financial perspective, as an assessment for stakeholders and for management can be used as a basis or basis for making a plan, including how the company plans the strategy it will carry out in get the targeted profit. This research calculates *Return on Assets* (ROA), namely by calculating the total net profit after tax divided by the total assets owned by the company to calculate *Return On Assets (ROA)*, this ROA calculation is in line with research conducted by Yuliani et al., (2021), Hamdani et al., (2022)and Muis (2020).



Source: processed by researchers, 2023
Picture 1. Conceptual Framework

Based on some literature, the researcher assumes that adding a moderating variable, it will provide a hypothesis regarding how ROA affects the independent variables and the dependent variable. In general, researchers suspect that profitability can moderate the negative impact of *finance* on the company. And develop a research model for the following topics:

H1: *Leverage* has a positive effect on *financial distress*
H2: Operating cash flow has a negative effect on *financial distress*
H3: *Leverage* and operating cash flow simultaneously influence *financial distress*
H4: Profitability weakens the effect of *leverage* on *financial distress*
H5: Profitability strengthens the effect of operating cash flow against *financial distress*

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METHODS

The object of the study "The Effect of *Leverage* and Operating Cash Flow on *Financial Distress* with Profitability as a Moderating Variable in Mining Companies Listed on the Indonesia Stock Exchange for the 2020-2022 Period" is secondary data in the form of financial statements and company annual reports in the mining sector which are available on the Stock Exchange Indonesia. Based on the time of collection, the data used in this study is panel data, namely data collected at certain times and on several objects with the aim of describing the situation. The type of panel data used in this study is a *balanced panel* where each *cross-sectional unit has the* same number of *time series* observations. The period in this study is 3 (three) years, namely 2020, 2021 and 2022. Data on the company's financial reports and annual reports were obtained from the company's *website* and the official *website* of the Indonesia Stock Exchange. The approach used in this study is a quantitative approach where research data is presented in the form of numbers and data analysis techniques using statistics Sugiyono (2018). The data analysis technique used in this study is multiple linear regression analysis to determine the (associative) relationship between *Leverage* and Operating Cash Flow on the dependent variable *Financial Distress* with Profitability as a moderating variable. The sample in this study was obtained through a *purposive sampling method* based on consideration of certain criteria or conditions that must be met.

RESULTS

In this study, testing the model determined through the Chow test results shown in Table 4.6 shows the Prob or *p-value* and *Chi-square value* of 0.0000, which means it is smaller than the significance value of 0.05. When looking at the test criteria described above, it can be concluded that H0 is rejected and the selected regression model is the *Fixed Effect Model* so further testing is needed, namely the Hausman Test to determine the best model between *the Fixed Effect Model* and *the Random Effect Model* which is appropriate as regression models.

CHOW TEST

Redundant Fixed Effects Tests
Equation: Untitled
Test cross-section fixed effects

Effects Test	Statistic	d.f.	Prob.
Cross-section F	12.947873	(28,84)	0.0000
Cross-section Chi-square	193.802729	28	0.0000

Source: primary data, processed by researchers, 2023

Based on the results of the Hausman test in Table 4.7, it shows a Prob F value of 0.0360. The Prob F. value is smaller than the significance value of 0.05, so it fulfills the first criterion, where *the Fixed Effect Model* was chosen to be the best regression model in this study. The *Fixed Effect* Model was selected the first two times, in the Chow Test and in the Hausman Test. Therefore, the Lagrange Multiplier (LM) Test is no longer needed. The Lagrange Multiplier test was conducted to find the best model between *the Random Effect Model* and *the Common Effect Model.* Carried out as in Table 2 below:

Hausman test

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Correlated Random Effects - Hausman Test
Equation: Untitled
Test cross-section random effects

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	8.544913	3	0.0360

Source: primary data, processed by researchers, 2023

The multiple linear regression model selection test was previously carried out using the Chow test and the Hausman test, and the results of the two tests selected the *Fixed Effect Model* as the best model, so the next step is to test multiple linear regression. Regression analysis as explained by Pramesti and Wijaya (2021) is a statistical technique used to find relationships between two or more variables to calculate the value of the dependent variable based on the value of the independent variable. To determine the impact or influence of two or more independent variables on the dependent variable, multiple linear regression analysis must be carried out (Sugiyono, 2019). Regression analysis on research panel data is shown in Table 4.10 where the regression model uses the previously selected *Fixed Effect Model :*

TABLE 4. 1

MULTIPLE LINEAR REGRESSION ANALYSIS

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-3915.010	720.9899	-5.430048	0.0000
LEV	0.659769	0.026336	25.05195	0.0000
AKO	0.174774	0.039081	4.472067	0.0000
ROA	5.097265	0.200306	25.44744	0.0000

Eviews Processed Data 12, 2023

Based on the analysis of *the Fixed Effect Model* which is exposed to the results in Ta it can be concluded that he multiple linear regression equations of study is s follows: $Y = a + \beta_1 X_1 + \beta_2 X_2 + \beta_3 Z_3 + \varepsilon$

$$FD = (-3915.010) + 0.659769LEV + 0.174774AKO + 5.097265ROA + \varepsilon$$

Information:
FD = *Financial Distress*
a = Constant
LEV = *Leverage*
AKO = Operating Cash Flow
ROA = *Return on Assets*
ε = *standard error*

The panel data regression equation has the following implications:

a. The constant has a value of -3915.010 which means that if the value of the independent or independent variable is equal to 0 or fixed, then the value of the company's *Financial Distress* as an independent variable is (-3915.010).
b. The regression coefficient of the *Leverage variable* or LEV has a value of 0.659769, meaning that if the other independent variables have a fixed value of 0, *Financial Distress* will increase

by 0.659769. A positive value on the *Leverage coefficient* indicates that there is a positive relationship arising from *Leverage* on *Financial Distress.*

c. The regression coefficient of the Operating Cash Flow variable has a value of 0.174774 indicating that if the other independent variables have a fixed value of 0 or the same, *Financial Distress* will increase by 0.174774.
d. The regression coefficient of the Profitability variable proxied by ROA has a value of 5.097265 indicating that if the value of the other independent variables has a fixed value of 0 and ROA of 1, *Financial Distress* will increase by 5.097265.

Hypothesis Test

TABLE 4. 2T TEST RESULTS (PARTIAL)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-3915.010	720.9899	-5.430048	0.0000
LEV	0.659769	0.026336	25.05195	0.0000
AKO	0.174774	0.039081	4.472067	0.0000
ROA	5.097265	0.200306	25.44744	0.0000

Eviews Processed Data 12, 2023

Based on the results shown in the table above, the *Leverage variable coefficient* is 0.659769 and the probability value is 0.0000. Based on the criteria previously described, if the probability value is less than the significance level of 0.05, then H1 is accepted and H0 is rejected. Therefore, it can be concluded that the *Leverage variable* influences *Financial Distress conditions. Thus, accepting H1 and rejecting H0, the coefficient value of the Leverage* variable shows a positive value, which implies that the influence that arises between *Leverage* and *Financial Distress* is positive. Then, the coefficient value of the Operating Cash Flow variable is 0.174774 and the probability value is 0.0000. based on the criteria previously described, if the probability value is less than the significance level of 0.05, then H1 is accepted and H0 is rejected. Therefore, it can be concluded that the operating cash flow variable has an influence on the condition of *Financial Distress.* Thus, accepting H1 and rejecting H0 the coefficient value of the Operating Cash Flow variable shows a positive value implying that the influence that appears between the Operating Cash Flow to *Financial Distress* is positive.

Discussion

The results above show that there is a significant positive influence that arises between the company's ability to pay off the debt by relying on the company's assets on the company's *Financial Distress condition*. Where this condition indicates that an increase in DAR of 1% will increase the *z-score value* by 0.659769 so that this will reduce the chances of *Financial Distress*. In line with the research conducted by Sari et al. (2022), Khafid et al. (2019), Sporta et al. (2017), and Adair et al. (2015)where the findings reveal that *leverage* has a significant positive effect on the condition of a company's *Financial Distress* as measured using *the Debt Assets Ratio.* Therefore, the company can avoid *financial distress.* With good debt management, the company will avoid *financial distress.*

In addition, these results also indicate that there is a significant positive effect that arises between the operating cash flow owned by the company's *Financial Distress condition*. Where this condition indicates that a 1% increase in Operating Cash Flow will increase the *z-score value* to 0.174774 so that which will reduce the chances of *Financial Distress.* In line with research conducted by Ramadhani et al. (2019), Tutliha et al. (2019), Diah et al. (2021)and Annisa et al. (2021)where the findings reveal Operating Cash Flow has a significant positive effect on the company's *Financial Distress condition* as measured using Operating Cash Flow divided by total debt.

Then, the results also show that profitability can be a moderating variable in the relationship between *leverage* and *financial distress.* In line with research conducted by Wilujeng et al. (2020), Kuntari et al. (2021)and Sarumaha et al. (2021). This is acceptable because management performs well in running operations so that the profit earned is in accordance with predetermined targets. From the profits generated by this company, it can be used to pay short-term and long-term obligations owned by the company, using the company's internal funding sources. So the possibility of a company experiencing *Financial Distress* is getting smaller. Thus, companies can avoid bankruptcy or *financial distress.* The results of this study are in contrast to Sari et al. (2022), Edwar et al. (2020), and Mulyatiningsih et al. (2021)which say that Profitability is not able to moderate the influence *of Leverage* on *Financial Distress.*

The next results show that the probability value obtained in the interaction of ROA with Operating Cash Flow is 0.1125, which is a probability value greater than the significance value of 0.05. This means that profitability may not be able to moderate the influence between *Leverage* and Financial Distress conditions. These results are consistent with research conducted by Sarumaha et al. (2021)and Kristiana et al. (2021). This study shows that profitability (ROA) is not able to moderate the effect of operating cash flow on *financial distress.* This is because the profits obtained by the company are not used to finance the company's operational activities, but to finance or invest in the company. Nevertheless, management prefers internal funding from the company in the form of retained earnings. In this study, the size of the percentage of profitability in terms of ROA has no effect on the relationship between operating cash flow in predicting bankruptcy or *financial distress.*

CONCLUSION

Leverage has a positive effect on the condition of the company's *Financial Distress* using the *Altman Z-score method*. This means that the higher the *Leverage percentage, the Financial Distress* value will increase as seen by the *Altman Z-score method*, indicating a more secure company condition. And vice versa, the lower the percentage *of Leverage* , the worse the *Financial Distress* condition. Operating Cash Flow has a positive effect on the condition of the company's *Financial Distress* which is reviewed using the *Altman Z-score method.* This means that the higher the percentage of Operating Cash Flow will increase the value of *Financial Distress* which is reviewed by the *Altman Z-score method* indicating an increasingly secure company condition . Vice versa, the lower the percentage of Operating Cash Flow the condition of *Financial Distress* is getting worse. *Leverage,* Operating Cash Flow and ROA jointly affect the *Financial Distress conditions* of mining companies for the 2019-2022 period. This is indicated by the Prob(F-statistic) value of 0.0000 < 0.05. so it can be concluded that the independent variables have a simultaneous influence on the condition of the company's *Financial Distress*. The coefficient of determination shows that the three variables have the ability to explain *Financial Distress* by 98.8%. Profitability (ROA) can weaken the relationship

between *Leverage* and *Financial Distress.* The results show that the existence of profitability can weaken the influence of *Leverage* on *Financial Distress conditions.* The high or low percentage of profitability can weaken the effect of *Leverage* on *Financial Distress.* Profitability (ROA) cannot moderate the effect of Operating Cash Flow on *Financial Distress.* This shows that the high or low value of profitability does not strengthen or weaken the influence of operating cash flow on the company's *financial distress* .

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