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How Does Leverage, Firm Size, and Cash Flow Affect The Financial Distress?

(In Construction Companies Listed On The Indonesia Stock Exchange In 2018-2022)

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Abstract. *The objective of this study is to investigate and gather empirical data about the impact of leverage, firm size, and cash flow on financial distress in construction companies that are listed on the Indonesian Stock Exchange between 2018 and 2022. Research data is evaluated using logistic regression using SPSS 23 for Windows, using secondary data gathered from the company's annual financial reports and official website. According to the study's findings, three factors significantly influence financial distress: 1) leverage has no effect; 2) firm size has a negative effect; and 3) cash flow has no effect. The results of this research can be used as a basis for taking corrective action if there are indications that the company is experiencing financial distress. Thus, to better manage the firm's financial risks, even though company size is the only major element, management should nevertheless keep an eye on other factors like liquidity and cash flow.*

Keywords *Leverage, Firm Size, Cash Flow, Financial Distress*

1. INTRODUCTION

Financial distress occurs when a business is unable to pay its debts or fulfill its financial responsibilities, and it is commonly used to describe situations where a firm faces financial difficulties and the possibility of bankruptcy (Mafiroh & Triyono, 2018). This situation may jeopardize the company's long-term viability, the employees' ability to remain employed, and possibly even have a significant effect on the overall state of the economy. Any industry can experience financial distress, and the building construction industry is one of them.

Construction Businesses in the construction industry are facing a number of financial issues. One course of action they can take in the event that they run out of money for their project is to seek for a loan. By granting a loan, the business agrees to repay the principal amount plus the borrowed money on each maturity date. Nonetheless, the business faces challenges in a number of areas when it comes to making its debt payments. Rather than poor operational performance, the primary cause of Indonesia's problems seems to be a weakening financial balance sheet and capital structure (Mokhtar & Suhartono, 2024).

Aside from that, there have been instances of delisting from listed firms on the Indonesia Stock Exchange (BEI); these were mostly the result of financial distress experienced by the companies. Data below indicates that 19 companies had their listings delisted between 2018 and 2024. This data is displayed in the graph below.

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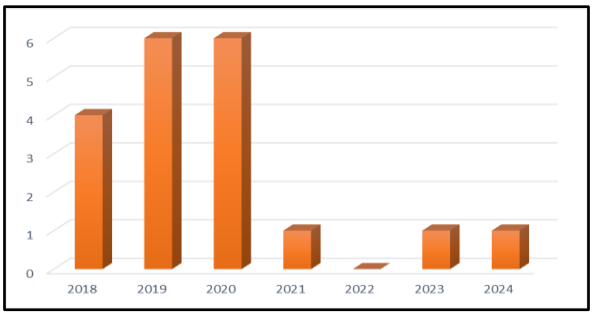

Source: Indonesian Stock Exchange

Figure 1. Delisting Companies (2018-2024)

Delisting is the process of removing shares from the stock exchange's list due to specific circumstances, making it impossible for the company's shares to be traded openly. The management of the company and investors may find it difficult to conduct business as a result. Thus, in order to lower the amount of losses, the possibility of bankruptcy must be minimized. Financial distress can be caused by a variety of things.

Firm size is an element that influences financial distress. The overall assets of a corporation are what determine its size (Kurniasanti & Musdholifah, 2018). The first aspect that can affect financial distress is a firm's size, which reflects the value of the assets it has. A company is less likely to experience financial distress the more assets it has. Loans to banks or other businesses are another common way for businesses to finance their assets. As a result, it's critical to consider how the leverage ratio affects financial distress.

A statistic called the leverage ratio illustrates how much debt was used to finance the company (Fahmi, 2014). A company that has too much debt will suffer since it will fall into the category of highly leveraged companies, making it harder for the company to recover from a heavy debt load. As a result, companies need to consider both the advantages of borrowing money and the available funding options (Azalia & Rahayu, 2019). The debt ratio, which compares all debt to all assets, can be used to calculate the leverage ratio.

Cash flow is another measure of financial distress in addition to firm size and leverage ratio. Layoffs of employees, a reduction in dividend payments, and cash flows that are less than long-term liabilities are early signs of financial distress for a corporation. A higher cash flow ratio suggests that the business is making more money and is therefore worth more, which reduces the likelihood of financial trouble (Faldiansyah et al., 2020).

2. LITERATURE REVIEW

Financial Distress is the condition of a company have a declining financial position which leads to bankruptcy. One of the ratios used to measure financial distress is the Interest Coverage Ratio (ICR). ICR is a metric that assesses a company's ability to pay short-term and long-term interest-bearing debt through pre-tax earnings. A higher ICR ratio shows that the company can pay its debt interest more effectively. Financial distress occurs when ICR < 1 (Claessens et al., 2003).

Leverage Ratio is a company's ability to pay off current debt and long-term debt. This ratio is used to evaluate how much debt a business is financing. The company will be more vulnerable to future payment difficulties if its financing involves an excessive amount of debt since the debt exceeds the company's assets. The ratio used to calculate this ratio is the debt to equity ratio. A higher DER number signifies that the entire debt of the company exceeds its total capital. An asset value that is lower than its liabilities will tend to be exposed to solvency risk (Muslimin, 2017).

Firm Size can be categorized using a number of factors, such as total assets, log size, sales, and market capitalization, on a scale called "firm size." (Suardana et al., 2020). Bigger firms are more likely than smaller firms to issue new shares in order to finance their sales growth (Santoso & Susilowati, 2019). Consequently, a company's likelihood of utilizing outside investment increases with its growth.

Cash Flow is part of the financial report which includes cash receipts and payments. Hery (2016) explains that a company that produces positive cash flow means the company is able to pay off debt, pay prive or dividends, and is able to fund company growth through business expansion or investment activities. Firms that have a lot of capital and cash flow will be more able to attract investors (Dalimunthe et al., 2023).

So the hypotheses proposed in this research are: 1) Leverage has a positive influence on financial distress; 2) Firm size has a negative influence on financial distress; 3) Cash flow has a negative influence on financial distress. Thus, the following is the conceptual framework of the research.

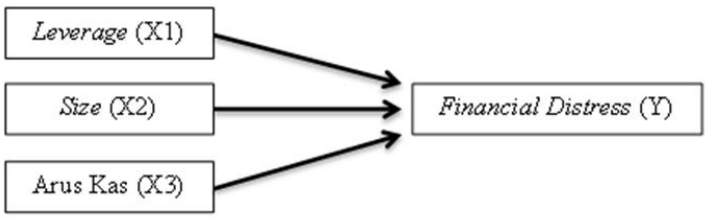

Figure 2. Conceptual Framework

3. METHODS

This research is a type of quantitative approach research. Quantitative research uses numbers to collect, interpret, and show research results (Kusumastuti et al., 2020). The research sample is non-financial manufacturing companies in the construction sector listed on the Indonesia Stock Exchange (BEI) for the 2018-2022 period. With the operational definition of research variables, namely:

Table 1. Variable Operational Definition

Variable	Proxy	Scale
Financial Distress (Y)	$ICR = \frac{Earning\ Before\ Interest\ and\ Taxes}{Interest\ Expense}\ x\ 100$	Ratio
Leverage (X1)	$DER = \frac{Total\ Liabilities}{Total\ Equity}\ x\ 100$	Ratio
Firm Size (X2)	$Size = Ln\ (Total\ Aset)$	Ln
Cash Flow (X3)	$CF = \frac{Operating\ Cash\ Flow}{Total\ Asset}\ x\ 100$	Ratio

Source: Processed Data, 2024

This research's analytical method uses multiple linear regression. Data is processed with SPPS for Windows. Several statistical tests used are descriptive statistics, regression model feasibility testing, overall model testing and hypothesis testing. 1) descriptive statistics to produce generally acceptable conclusions by analyzing and describing data (Ramdhan, 2021); 2) logistic regression is used because the dependent variable is categorical (dummy) (Ghozali, 2016), where the financial distress variable in this study is a dummy variable, 0 = not experiencing financial distress and 1 = experiencing financial distress; 3) The Wald test is used to test the hypothesis by looking at the significant p-value, if > 5% then the hypothesis is rejected or the independent variable does not significantly influence the dependent variable. The models used are:

$$\boldsymbol{Y = \alpha + \beta[1X1 + \beta2X2 + \beta3X3 + \varepsilon]}$$

Where, Y: Financial Distress; X1: Leverage; X2: Firm Size; X3: Cash Flow; α : Constant; β1β2β3: independent variable regression coefficient; ε : error terms (nuisance errors). Ghozali (2016), in the analysis using logistic regression there are three things that must be paid attention to, namely: 1) test the feasibility of the regression model (Goodness of Fit), if the significance value is > 0.05, it means the model is worthy of explaining the variables; 2) test the overall model (Overall Model Fit), indicated by the initial and final –2 log likelihood values, if there is a decrease it means that the data used fits the hypothesized model so that the model

is suitable for use; 3) coefficient of determination (Nagerkerke R2), when the value is close to 1, it means that the independent variable explains the dependent variable well.

4. RESULTS

Based on a standard sample (purposive sampling), a research sample of 14 companies was obtained throughout the 2018-2022 period. Then, below are the descriptive statistical results of the research variables. Based on the results obtained in Table 2, it can be seen that the results of observations carried out during 2018-2022 were (N), namely 70 data.

Table 2. Descriptive Statistics

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
DER	70	.22	35.47	2.5077	4.33240
Firm Size	70	26.73	32.45	29.3289	1.73140
Cash Flow	70	-.14	.58	.0243	.10042
Valid N (listwise)	70				

Source: Processed Data, 2024

Next are the results of the logistic regression analysis test. The results of the goodness of fit test, overall model fit, and Nagelkerke R square are shown in the following tables. Where: 1) Based on Table 3, the Sig results are known. Chi-square 0.164 > 0.05, meaning that the hypothesized model fits the data so that it is appropriate to explain the research variables; 2) Based on Table 4, it is known that in block number 0, the -2 log likelihood result was 88.643, then in block number 1 the -2 log likelihood result was 74.660, this proves that there is a significant reduction in the results by simultaneously accepting the independent variables which can change the model. hypothesized fit; 3) Based on Table 5, it is known that Nagelkerke's R^2 is 0.252, meaning that the related variable can be described by the independent variable at 25.2%. Meanwhile, the remaining 74.8% is influenced by other variables outside the model.

Table 3. Hosmer and Lemeshow's Goodness of Fit Test Results

Hosmer and Lemeshow Test

Step	Chi-square	df	Sig.
1	11.719	8	.164

Source: Processed Data, 2024

Table 4. Overall Model Fit Test Results

-2 *log likehood Value* awal (block number = 0)	88,643
-2 *log likehood Value* akhir (block number = 1)	74,660

Source: Processed Data, 2024

Table 5. Nagelkerke R Square Test Results

Model Summary

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	74.660[a]	.181	.252

a. Estimation terminated at iteration number 6 because parameter estimates changed by less than .001.

Source: Processed Data, 2024

Selanjutnya, hasil pengujian hipotesis metode Wald yaitu sebagai berikut:

Table 6. Logistic Regression Coefficient Test Results

Variables in the Equation						
		B	**S.E**	**Wald**	**df**	**Sig.**
Step 1	Leverage (X1)	0,415	0,254	2,667	1	0,102
	Firm Size (X2)	-0,815	0,281	8,396	1	0,004
	Arus Kas (X3)	-3,399	2,985	1,297	1	0,255
	Constant	22,193	8,083	8,083	1	0,004

Source: Processed Data, 2024

Sourced from Table 6, comparison of logistic regression analysis models, namely:

$$\boldsymbol{Y = 22,193 + 0,415X1 - 0,815X2 - 3,399X3}$$

1. The regression coefficient for the Leverage variable (X1) has a positive influence with a significant p-value of 0.102 > 0.05, meaning that the Leverage variable is not significant.
2. The regression coefficient for the Firm Size variable (X2) has a negative influence with a significant p-value of 0.004 < 0.05, meaning that the Firm Size variable is significant.
3. The regression coefficient for the Company Cash Flow variable (X3) has a negative influence with a significant p-value of 0.255 > 0.05, meaning that the cash flow variable is not significant.

5. DISCUSSION

The Effect of Leverage on Financial Distress, based on the results of this research, it is known that the leverage variable which is proxied by the debt to equity ratio has no effect on the chance of financial distress problems. This is based on data that has been tested and the results show that leverage has a positive direction with a beta coefficient of 0.415 and a significance figure of 0.102 > 0.05, which proves that the independent variable leverage has an insignificant positive effect on the dependent variable. Apart from that, the debt to equity ratio is one of the many indicators that can be used to research financial distress. In addition to DER, companies must consider liquidity, operational performance and other factors that influence financial risk. The results of this research are supported by Purwaningsih & Safitri (2022), who obtained similar results. This is because DER is only one of many indicators that can be used to predict financial distress.

The Effect of Firm Size on Financial Distress, hypothesis testing shows that H2 is accepted with the existence of a negative relationship between company size and financial distress, meaning that every increase in company size will reduce the potential for company bankruptcy. This is because the large size of the company will make it easier to borrow either in the form of share capital or debt. That way, the company will still be able to fulfill its obligations using both internal and external funds. A good reputation and image are always synonymous with the characteristics of large companies among the public. This is because companies with large total assets have good prospects in the future (Yanti, 2019). This research also supports previous research, namely Agustin (2021), which stated that large companies have a lower risk of financial distress.

The Influence of Cash Flow on Financial Distress, cash flow which in this research is proxied by operating cash flow has no effect on the chance of financial distress occurring. This happens because several industries have very fluctuating business cycles. Although operating cash flow may be good during a certain period, a company remains vulnerable to changes in the business cycle and sometimes, a company can have strong operating cash flow, but most of it comes from non-operating activities (such as asset sales). Poor cash flow quality can affect a company's ability to meet financial obligations. The results of this research are supported by (Faldiansyah et al., 2020) which states that cash flow has no effect on financial distress.

6. CONCLUSION

Leverage has no effect on financial distress in construction sector companies listed on the Indonesia Stock Exchange for the 2018-2022 period. The reason why the Debt to Equity Ratio does not have a significant effect is because companies have a tendency to finance capital with relatively low debt and manage the company well, thereby reducing the risk of financial distress.

Firm size has a significant negative effect on financial distress in construction sector companies listed on the Indonesia Stock Exchange in 2018-2022. The more assets a company has, the more it will help the company in overcoming the risk of financial distress.

Cash flow has no effect on financial distress in construction sector companies listed on the Indonesia Stock Exchange in 2018-2022. Low operating cash flow cannot indicate financial distress. This is because the small cash flow of a company cannot ensure that the company is experiencing financial distress.

7. LIMITATION

The limitations of this research are: 1) The research samples only used around construction companies listed on the Indonesia Stock Exchange in 2018-2022; 2) The variables used in the research (leverage, company size, and cash flow) have limited ability to explain the dependent variable with an R^2 value of 25%, indicating that there are still many other variables that have not contributed to the financial distress experienced by the company.

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