The Effect of Sales Growth, Profitability, Liquidity, and Operating Cash Flow in Predicting Financial Distress During the Covid-19 Pandemic

(Empirical Study of Property, Real Estate, and Construction Companies on the IDX for the 2019–2021 Period)

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Abstract. This research aims to determine the effect of sales growth, profitability, liquidity, and operating cash flow in predicting financial distress during the covid-19 pandemic. The population in this research are all property, real estate, and construction companies listed on the Indonesia Stock Exchange in 2019–2021. The purposive sampling method is used in the sampling technique. Samples that meet the criteria are 44 companies with a total of 132 data for three years of observation. Data analysis used logistic regression with the help of the SPSS program. The results show that sales growth and profitability have an effect, while liquidity and operating cash flow have no impact in predicting financial distress conditions.

Keywords: Sales Growth · Profitability · Liquidity · Operating Cash Flow · Financial Distress

1 Introduction

Indonesia's economic growth is threatened due to the Covid-19 pandemic. The changing financial situation due to the Covid-19 pandemic can affect the company's activities and performance. When the version of the company's resources cannot compete and the company cannot process its activities, it will experience losses which, in the end, can cause financial distress. The economic downturn experienced by the company will have an impact on financial difficulties [4].

Companies in the property, real estate, and construction sectors are among the business sectors whose survival has been affected by the Covid-19 pandemic. Rating agency Pefindo shows that the property sector has a precarious financial performance against the Covid-19 pandemic [28].

Currently, the property sub-sectors that suffer the most are malls and hotels, with a maximum traffic of 40%. However, the government's stimulus to the property sector

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still needs to be improved [11]. In 2020, the Central Statistics Agency (BPS) announced that 82.85% of companies were affected by the Covid-19 pandemic. In terms of sector, the construction business experienced a decline in revenue, which was 87.94 [23].

Lack of funds because the company's liabilities are more significant than its total assets will make it unable to pay off its debts to creditors, so it cannot achieve the desired profitability. This condition is called financial distress and appears before bankruptcy [10].

Financial distress begins with ongoing losses to the company, which causes a capital deficiency. There are several ways to review financial distress, including company performance that continues to decline, unpaid company obligations, and decreased dividend payments. This issue is because the company has to face cash flow problems, liquidity difficulties, the number of workers laid off, and other conditions, which reflects that the company is experiencing financial distress [9].

Financial problems faced by a company, if allowed to drag on, can lead to bankruptcy [3]. So that companies can take corrective actions, it is essential to know information about financial distress, which can be done by analyzing the company's financial ratios. Several studies have been conducted to determine the usefulness of financial ratio analysis in assessing a business's financial distress level [21].

The sales growth referred to in this study is a ratio that describes the company's development in maintaining its economic condition [17]. Financial distress can be predicted using the profitability ratio. According to research by Hanafi and Halim [13], The profitability ratio is a ratio that shows a company's ability to earn net profit at a certain level of sales, assets, and share capital.

Liquidity is the company's ability to pay financial obligations (short-term) that must be paid off immediately [25]. Financial distress can be predicted using the liquidity ratio. In addition, financial distress can also be expected using the cash flow ratio. Cash flow is a report containing relevant information regarding cash disbursements and receipts within a certain period. Company operations will experience cash inflows and outflows [14].

Based on this description, this study was conducted to determine the effect of sales growth, profitability, liquidity, and operating cash flow in predicting financial distress during the Covid-19 pandemic in property, real estate, and construction companies.

2 Literature Review and Hypothesis Development

2.1 Signaling Theory

Signaling Theory describes that the company provides information about the company in the form of positive or negative signals to users of financial statements [24].

The company provides information in the form of good news, such as good company conditions, profit announcements, and dividend distribution. The other problems could be more news information, such as company losses that cause the company to be unable to distribute dividends or too much company debt that increases the risk of bankruptcy [7]. If management can understand and be wise in handling bad news, then management can improve opportunities for companies to increase their business and minimize the potential for financial distress.

Good and bad company information can be conveyed to managers using signalling theory. The data is used to take management actions quickly to minimize the company's bankruptcy. For this reason, in the interest of increasing the company's ability to pay debts, run better company operations, and provide a signal if financial distress occurs in the future, management can use merger or takeover actions [19].

2.2 Financial Distress

The two extreme points of financial distress can be in the form of short-term liquidity to insolvable conditions. In general, it is short-term, but economic distress conditions can become more severe, resulting in an insolvable need for the company [12].

The uncertainty of profitability in the future is an early sign of financial distress that usually occur in companies experiencing bankruptcy [30]. Financial distress is caused by companies that cannot control and maintain the stability of their financial performance. This issue begins with a failure to promote their products, making the company's sales and revenues decline. The decline in sales and income can result in operational losses and net losses for the current year experienced by the company.

Companies in financial distress can potentially go bankrupt in the real sense, namely, legally bankrupt. However, this does not mean that all companies experiencing financial distress will end up bankrupt. Companies can get through these bad conditions depending on the proper management decision in handling the problem.

2.3 Financial Ratio Analysis

Financial ratio analysis can predict financial distress by measuring the company*'s health* [15]. This financial ratio analysis is carried out to predict the potential for financial difficulties from an early age and to minimize the occurrence of bankruptcy in the future. The company can take control measures.

One aspect shows that financial ratio analysis is critical in predicting the viability of a company. To prevent the possibility of bankruptcy, the prediction of survival is essential for management and company owners [4].

Companies can use financial reports to measure their health through existing financial ratios. The company's health reflects its ability to run its business, distribution of assets, effective use of assets, results of operations or profits, fixed costs paid, and the possibility of bankruptcy. Therefore, financial ratios help predict financial difficulties for one to five years before bankruptcy [3].

2.4 The Effect of Sales Growth in Predicting Financial Distress

Sales growth is defined as a ratio that measures and informs the development of a company's sales by looking at its growth [27]. Sales growth describes the company's ability to increase its sales level from time to time. If the sales growth rate is higher, the company will be more successful in carrying out its marketing strategy and selling its products, and vice versa.

A company with positive sales growth owns the tendency to maintain business continuity and reduce the potential for financial distress [26]. It can increase income levels yearly, help the company survive, and reduce the risk of financial distress.

Based on this, we can formulate the following hypotheses:

H1: Sales growth affects financial distress conditions.

2.5 The Effect of Profitability in Predicting Financial Distress

Profitability is a ratio measuring a company's ability to earn net profit at a certain level of sales, assets, and share capital [12]. Managers have run their businesses well if the company can generate high profits. With this high profit, investors can be attracted and want to invest to save the company in the future from the threat of financial distress.

According to Keown [18], one indicator to measure company profitability can use Return On Assets (ROA). If the ROA achieved by the company is more significant, the possibility of financial distress is slighter.

Based on this, we can formulate the following hypotheses:

H2: Profitability affects financial distress conditions.

2.6 The Effect of Liquidity in Predicting Financial Distress

The condition of companies in financial trouble can be seen from the liquidity side. Liquidity measures a company's ability to make payments and finance for operational purposes in the short term [31]. The liquidity ratio measures a company's ability to utilize its current assets to meet its short-term obligations [29].

Companies unable to meet their current obligations are a severe liquidity problem. These problems can force companies to sell investments and assets and lead to difficulties, insolvency, and bankruptcy [19].

The liquidity ratio is measured using the current ratio (CR). By knowing the CR, it will be able to predict the occurrence of financial distress. If the CR value is higher, the risk of the company experiencing financial distress is lower, which means that the company can pay the company's short-term obligations back correctly.

Based on this, we can formulate the following hypotheses:

H3: Liquidity affects financial distress conditions.

2.7 The Effect of Operating Cash Flow in Predicting Financial Distress

Cash flow is a report that provides information regarding expenditures and receipts of cash during a certain relevant period. Operating cash flow is an indicator that determines whether the operations carried out by the company can generate some money. Thus, using cash flow can signal investors about a company's financial condition [20].

The ability to generate cash inflow from operations is essential for sound finances, as a company can only survive in the long term by generating cash from its operations. Therefore, the cash flow ratio is crucial in detecting the possibility of bankruptcy and financial distress. The greater the company's total cash flow, the less financial distress.

Based on this, we can formulate the following hypotheses:

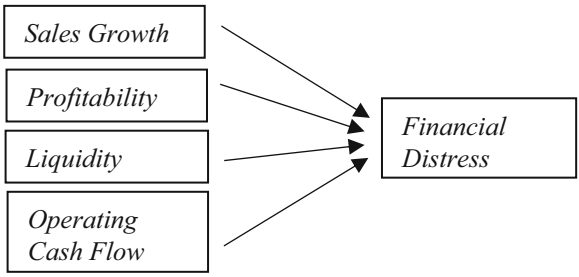

Fig. 1. Research Model

H4: Operating cash flow affects financial distress conditions.

We can realize the framework of thought in this research with Fig. 1.

3 Research Method

This research aims to determine the influence of sales growth, profitability, liquidity, and operating cash flow in predicting financial distress. This type of causative research uses quantitative methods with secondary data obtained from www.idx.co.id in the form of audited financial reports on companies listed on the IDX in the property, real estate, and construction sectors.

We used the purposive sampling method with several criteria: companies engaged in the property, real estate, and construction sectors listed on the IDX published consecutive and audited financial reports during 2019–2021 and experienced a minimum negative net profit once during that period of the year.

With these sample criteria, a total of 44 company samples were obtained. A total of 132 company samples were obtained using the data aggregation method during the three years of observation.

3.1 Operational Research Variables

Financial Distress. Measurement with a dummy variable through measurement indicators: a value of 1 for a company experiencing financial distress. Suppose the company experiences negative net operating profit for two consecutive years and a score of 0 for companies not experiencing financial distress. Suppose the company has not experienced negative net operating profit for two consecutive years. To determine the year a company experiences financial distress is the year in the X variable period of the research year and a year after the X variable period of the research year [3].

Sales Growth. The measurement of the sales growth variable can be formulated as follows [1]:

$$\text{Sales Growth} = \frac{\text{Sales}_t - \text{Sales}_{t-1}}{\text{Sales}_{t-1}}$$

Profitability. The measurement of the profitability variable using ROA can be formulated as follows [16]:

$$\text{ROA} = \frac{\text{Net profit}}{\text{Total assets}}$$

Liquidity. Liquidity measurement using the current ratio can be formulated as follows [16]:

$$\text{CR} = \frac{\text{Current asset}}{\text{Current liabilities}}$$

Operating Cash Flow. Measurement of operating cash flow can be formulated as follows [20]:

Net cash flow from operating activities (OCF)

In this study, the original data must be transformed using standardization because the cash flow variable has units that are not the same as other variables, namely by changing the actual data into standard values or z-scores.

3.2 Analysis Method

Logistic regression analysis was used to test the hypotheses in this study. The stages of data analysis are descriptive statistics, overall model fit test, testing the coefficient of determination, testing the feasibility of the regression model, and logistic regression testing.

The logistic regression model used is:

$$\text{Ln}\frac{\text{P}}{(1-\text{P})} = \alpha + \beta_1\text{SG} + \beta_2\text{ROA} + \beta_3\text{CR} + \beta_4\text{OCF} + \varepsilon \quad (1)$$

Notes:

$\text{Ln}\frac{\text{P}}{(1-\text{P})}$: Log comparison of opportunities for financial distress with non-financial distress.

α: Constant

$\beta_1 - \beta_4$: Variable Coefficient

SG: Sales Growth

ROA: Profitability

CR: Current Ratio.

OCF: Operating Cash Flow

ε: Error Term

4 Result and Discussion

4.1 Descriptive Statistics

Descriptive statistical analysis is used to determine the trend of each research variable. Table 1 shows the results of the descriptive statistical test.

The descriptive statistical analysis results show the minimum, maximum, mean, and standard deviation values of each variable in this study.

Table 1. Descriptive Statistics Test Results

Variable	Min	Max	Mean	Std Deviation
SG	−0.899	4.360	0.06097	0.801759
ROA	−0.439	0.277	−0.02307	0.083733
CR	0.126	65.252	4.13761	7.261158
OCF	−4.568	5.668	0.00000	0.992337
FD	0.000	1.000	0.31818	0.467545

4.2 Data Analysis Result

Overall Model Fit Test. Assessing the comprehensive model (overall model fit) from the number −2 Log Likelihood, where Block Number 0 number −2 Log Likelihood must decrease to Block Number 1. This decrease occurs when the probability of logistic regression shows a better model. Table 2 shows the results of the Block 0 test.

The −2 Log Likelihood value is 165.130 in the Block 0: Beginning Block test results, only with constants as the first model without independent variables. Table 3 shows the results of the Block 1 test.

Block Number 1 drops to 125.232, so we cannot reject H0, which means that the hypothesized model is fit and feasible.

Table 2. Block 0: Beginning Block Test Result

Iteration		−2 Log likelihood	Coefficients Constant
Step 0	1	165.165	−.727
	2	165.130	−.762
	3	165.130	−.762

Table 3. Block 1: Method = Enter Test Result

Iteration		−2 Log likelihood	Coefficients				
			Const	SG	ROA	CR	OCF
Step 1	1	135.729	−.915	−.535	−7.811	.010	−.213
	2	127.427	−1.257	−1.205	−11.845	.017	−.320
	3	125.359	−1.472	−1.849	−13.447	.016	−.398
	4	125.232	−1.541	−2.061	−13.741	.014	−.433
	5	125.232	−1.546	−2.074	−13.760	.014	−.436
	6	125.232	−1.546	−2.074	−13.760	.014	−.436

Coefficient of Determination Test. The Nagelkarke R-Square value in logistic regression shows the results of the coefficient of determination test, and the test results can be seen in Table 4.

The Nagelkarke R-Square value is 0.365, indicating that the independent variable can explain the variability of the dependent variable by 36.5%, and the remaining 63.5% means other variables outside the study. In other words, the variable sales growth, profitability, liquidity, and operating cash flow can simultaneously explain the prediction of financial distress by 36.5%.

Regression Model Feasibility Test. The Hosmer and Lemeshow test show the regression model's feasibility test results, as seen in Table 5.

The chi-square value is 5.069, and the sig. More significant than 0.05, which is equal to 0.750 from the results of the feasibility test of the regression model, we can conclude that H0 is accepted, and we can continue the logistic regression model in the next test.

Logistic Regression Test Result. It can be seen in Table 6 for the results of the logistic regression test in this study.

The logistic regression equation from the table:

$$\mathrm{Ln}\frac{\mathrm{P}}{(1-\mathrm{P})} = -1.546 + (-2.047)\mathrm{SG} + (-13.760)\mathrm{ROA} + 0.14\mathrm{CR} + (-0.436)\mathrm{OCF} \tag{2}$$

Based on the logistic regression equation, we can obtain the following interpretation.

Table 4. Coefficient of Determination Test Results

Step	−2 Log Likelihood	Cox & snell R square	Nagelkarke R Square
1	125.232	0.261	0.365

Table 5. Regression Model Feasibility Test Results

Step	Chi-square	df	Sig.
1	5.069	8	0.750

Table 6. Logistics Regression Test Results

		B	S.E.	Wald	df	Sig.
Step 1a	SG	−2.074	0.687	9.120	1	0.003
	ROA	−13.760	4.383	9.854	1	0.002
	CR	0.014	0.041	0.117	1	0.733
	OCF	−0.436	0.366	1.420	1	0.233
	Constant	−1.546	0.353	19.178	1	0.000

The constant is −1.546. This result means that without the influence of the variables of sales growth, profitability, liquidity, and operating cash flow, it shows a probability of financial distress of 1.546.

The SG coefficient is −2.074. This result shows that if the SG (sales growth) variable increases by 1 unit, the probability of financial distress will decrease by 2.074 units, assuming that other variables remain. Conversely, if the SG variable decreases by 1 unit, the likelihood of financial distress will increase by 2.074 units.

The ROA coefficient is −13.760. This result shows that if ROA (profitability) increases by 1 unit, the probability of financial distress will decrease by 13.760 units, assuming that the other variables are constant. On the other hand, if ROA decreases by 1 unit, the probability of financial distress will increase by 13.760 units.

The CR coefficient is 0.014. This result means that if the CR (liquidity) increases by 1 unit, the probability of financial distress will increase by 0.014 units, assuming that the other variables are constant. On the other hand, if the CR decreases by 1 unit, the probability of financial distress will decrease by 0.014 units.

The OCF coefficient is −0.436. This result means that if the OCF (operating cash flow) increases by 1 unit, the probability of financial distress will decrease by 0.436 units, assuming that the other variables are constant. On the other hand, if the OCF decreases by 1 unit, the probability of financial distress will increase by 0.436 units.

4.3 Hypothesis Test

This research was conducted by looking at the sig. 5% ($\alpha = 0.05$) in testing the hypothesis. Sig. Value > 0.05 means the hypothesis is rejected (regression coefficient is insignificant), and the sig. < 0.05 means the hypothesis is accepted (significant regression coefficient).

The Effect of Sales Growth in Financial Distress. Data processing shows that the value of sig. SG is $0.003 < 0.05$. we can conclude that H1 is accepted; sales growth affects (significant) financial distress.

The Effect of Profitability in Financial Distress. Data processing shows that the value of sig. ROA is $0.002 < 0.05$. Then we can conclude that H2 is accepted. Profitability effects (significant) financial distress.

The Effect of Liquidity in Financial Distress. Data processing shows that the value of sig. CR is $0.733 > 0.05$. Then we can conclude that H3 is rejected. Liquidity does not affect (not significant) financial distress.

The Effect of Operating Cash Flow in Financial Distress. Data processing shows that the value of sig. Operating cash flow is $0.233 > 0.05$. we can conclude that H4 is rejected; using cash flow does not affect (not significant) financial distress.

5 Discussion

5.1 Sales Growth

The logistic regression analysis test in Table 6 shows that the variable sales growth in companies engaged in the property, real estate, and construction sectors studied has an effect (statistically significant) in predicting financial distress. This research supports the research conducted by Asfali [5] and Amanda & Tasman [2], which states that financial distress is influenced (statistically significant) by sales growth.

The high or low value of sales growth correlates with the possibility of financial distress. The higher the sales growth rate of a company indicates that it is successful in carrying out its marketing and product sales strategy, the more significant the profit to be obtained from these sales. Therefore, we can use sales growth to predict the possibility of a company experiencing financial distress.

5.2 Profitability

The logistic regression analysis test in Table 6 shows that profitability, as indicated by ROA in the companies engaged in the property, real estate, and construction sectors studied, has an effect (statistically significant) in predicting financial distress. This research supports research by Christine [6] and Saputra & Salim [27], which state that financial distress is influenced (statistically significant) by profitability.

Property, real estate, and construction companies experiencing financial distress generally have negative profitability. In this case, profitability shows the efficiency and effectiveness of using assets to generate company profits. Negative profitability indicates ineffective use of company assets to generate net income. This result suggests the financial distress experienced by the company and indicates an inefficient use of the company's investments in generating profits. If profitability continues to decline and even has a negative value, then the threat of bankruptcy will be even more significant for the company. Thus, to predict financial distress conditions can use the variable profitability.

5.3 Liquidity

The logistic regression analysis test in Table 6 shows that the variable liquidity measured using CR in the companies engaged in the property, real estate, and construction sectors studied has no effect (statistically not significant) in predicting financial distress. This research is done by Andre & Taqwa [3] and Fitri [8], which state that liquidity does not influence financial distress.

There is no direct relationship between debt and financial distress, so there is no significant difference between the liquidity of companies that experience financial distress and those that do not experience financial distress. Liquidity is a company's ability to pay off its current liabilities by comparing total existing assets and current liabilities. Accounts receivable and trade receivables contained in current assets require a relatively long time and vary for each company if they are used to pay off existing debts because receivables and inventories need to be converted into cash when used to pay off debts by the company. The company's liquidity value will not affect the possibility of the company experiencing financial distress [7].

5.4 Operating Cash Flow

The logistic regression analysis test in Table 6 shows that the operating cash flow of the companies engaged in the property, real estate, and construction sectors studied has no effect (statistically not significant) in predicting financial distress. This research follows research by Nukmaningtyas and Worokinasih [22], which states that operating cash flow does not affect financial distress.

The size or value of the operating cash flow does not influence the company's financial distress condition. It is because the amount of cash flows fluctuates from time to time, both for companies experiencing financial distress and not. In addition, an observation period of only three years is not enough to create a trend or tendency towards the possibility of successive (continuous) profits or losses as a characteristic of a condition of financial distress.

6 Conclusion

It can be concluded from the results of the analysis that has been carried out; that the variable sales growth and profitability (ROA) in companies engaged in the property, real estate, and construction sectors listed on the IDX in 2019–2021 during the Covid-19 pandemic had an effect (significant) in predicting financial distress. In comparison, the variable liquidity (CR) and operating cash flow have no impact (not substantial) in predicting financial distress.

Recommendations. Further research should use other measures to proxy the condition of financial distress because there are still many measurements of financial distress that we can use in addition to using negative net income measurement indicators for two consecutive years. Future research can also add other variables that influence predicting financial distress.

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