Understanding The Cash Flow Impact on Financial Distress among Hospitality Listed Firms Amidst the Covid-19 Pandemic: The Case of Indonesia

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Abstract

This study investigates the relationship between cash flow variables and financial distress among hospitality companies listed on the Indonesian stock market between 2017 and 2022. Analysis focused on Operating Cash Flow (OCF), Investment Cash Flow (ICF), and Financial Cash Flow (FCF) to discern their individual and combined impacts on financial distress. The findings reveal that each cash flow variable—OCF, ICF, and FCF—exerts a significant influence on financial distress when considered independently. Additionally, the collective effect of these cash flow variables, as evidenced by the F-test, demonstrates a noteworthy combined impact on financial distress. In summary, this study highlights the intricate interplay between cash flow dynamics and financial distress among Indonesian-listed private companies. While each cash flow component independently affects financial stability, their cumulative influence significantly determines vulnerability to financial distress. This underscores the critical need for comprehensive cash flow management strategies to mitigate financial risks and ensure sustained financial health in these entities amidst economic uncertainties.

Keywords: Financial Distress; Cash Flow Analysis; Operating Cash Flow; Investing Cash Flow; Financing Cashflow

1. Introduction

Tourism is considered to have a very important role in Indonesia's development, especially as one of the sectors of regional and state income (Aliansyah & Hermawan, 2019). The Covid-19 epidemic disrupted global and domestic supply chains, produced financial market instability, sparked consumer demand shocks, and had a severe influence on industries such as travel and tourism. The impact on the company is symptoms of financial difficulties up to bankruptcy.

Following a pandemic, certain industries might recover faster than others and gain, while others are more difficult to recover and incur losses. as shown by the existence of K-Shaped recovery (Cohen, A. 2020). The lack of success stemmed from the inadequate handling of finances within the company. The failure to effectively manage the flow of cash led to this outcome. Several researchers have agreed on the link between cash flow and financial difficulties (Murty & Misra, 2004; Rodgers, 2011; Ward, 1994; Yap et al., 2012; Phan et al., 2022). The cash held will play a role in preventing financial problems and providing assistance when financial problems occur (Abani et al., 2021; Adjei, 2013; Alnori, 2020; Lozano & Yaman, 2020).

Cash flow from operating activities is significant to financial difficulties (Romadhina et al, 2022). The higher the company's cash flow, the more guaranteed its business continuity. Financial cash flow has a negative relationship with financial distress. However, cash flows from investing and financing activities are not important in determining financial distress. Operating cash flow shows whether a company can generate sufficient cash flow to maintain and expand its

operations; otherwise, external capital investment funding is required to avoid financial difficulties (Assagaf et. al, 2021).

Investment Cash Flow has a significant positive effect on financial distress (Oktari, Alfarisi, Rahim, 2023). the importance of the cash flow ratio in determining which companies are experiencing financial difficulties. Using logistic regression, this study found that the cash flow ratio was a significant predictor of financial distress (Fawzi et al, 2015).

Many empirical studies find that the estimated sensitivity of investment cash flows is higher when the company faces funding constraints (Allayannis, Mozumdar, 2004). Adequate funding cash flow can provide the liquidity a company needs to cover its operational costs and debt obligations. Companies experiencing financial difficulties (constraints and difficulties) have lower cash holdings both during normal and crisis times (Bukalska, Maziarczyk, 2023).

From a theoretical perspective, it seems that there is a strong relationship between lack of cash flow and business difficulties. Businesses are in financial trouble if they face serious cash flow problems (Jooste, 2007). Based on data from 52 companies experiencing distress and 52 companies not experiencing distress during the three years before the year of distress between 2009 and 2012. The results found that five cash flow ratios were significant predictors of financial distress with overall prediction accuracy (Fawzi et al., 2015)

Cash flow analysis is becoming increasingly important since it displays a company's capacity to create and manage cash in order to meet financial obligations such as debt repayment and operating costs. The financial stability of private tourism-related companies listed on the Indonesian stock market is at risk due to the volatile nature of their cash flows, exacerbated by the ongoing COVID-19 pandemic. Tourism and hospitality industry in Indonesia is one of the most impacted sectors during the pandemic (Figure 1).
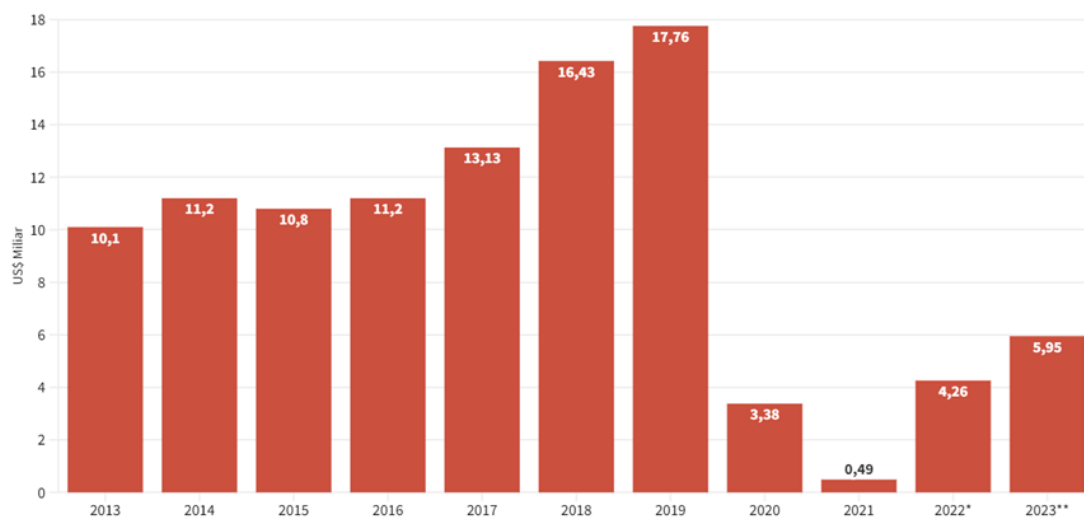
Figure 1. Indonesian Tourism Sector Foreign Exchange Income 2013-2023

The unpredictability and brevity of cash flows in these firms pose significant challenges, potentially leading to financial difficulties and instability. Understanding the direct impact of cash flow on the financial health of these companies during such a crisis is crucial for devising strategic interventions and sustainable financial management practices.

2. Literature Review

2.1. Theoretical Basic

Pecking order theory emerged from the concept of asymmetric information (Myers, 1984), and assume that due to incomplete information for investors, borrowing costs will increase (Degryse et al., 2012). External stakeholders such as creditors (debt holders) and investors (shareholders) typically have more knowledge about the firm's performance, prospects, risks, and future prospects than corporate managers. As a result, external parties want bigger returns in order to compensate for the risks they assume. Several studies support the pecking order theory in funding decisions (Lin et al., 2008; López-Gracia & Sogorb-Mira, 2008; McNamara et al., 2017) while other studies have not found much evidence (Frank & Goyal, 2008).

Pecking order theory ultimately explains why profitable companies generally have less debt. This happens not because the company has a low target debt ratio, but because the company does not need funds from external parties (Krishnnan & Myer, 2003). From a cash flow management perspective, the company's needs for operational activities, investment and financing will depend on how the company manages its debt ratio. Therefore, internal financing (retained earnings) is one of the funding methods used, and has low risk so that it can prevent the company from experiencing financial distress.

Trade off Theory is often used as a competing theory to Pecking Order Theory in capital structure (Amahalu, Ezechukwu, Egolum & Obi, 2018). There are advantages to debt financing, tax benefits from debt and there are costs to debt financing, costs of financial distress including debt bankruptcy costs and non-bankruptcy costs (Amahalu & Okudo, 2023). The marginal benefit of further increasing debt will decrease as debt increases, while marginal costs increase, so a firm optimizing its overall value will focus on this trade-off when choosing how much debt and equity to use for financing.

The goal of trade-off theory in capital structure is to balance the advantages and costs associated with the usage of debt. The trade-off between the benefits of employing debt and the expenditures incurred owing to bankruptcy and agency charges. The use of greater debt will increase the risk of default and lead to financial distress (Chandra et al, 2014). This increase in risk will increase the cost of bankruptcy, resulting in additional debt that is no longer feasible (Umdiana & Claudia, 2020). A bankrupt company will have very high accounting and legal burdens and will also have difficulty retaining its customers, suppliers and employees (Brigham & Houstan, 2006) Companies can still go into debt, but the increase in debt that has reached the cost of bankruptcy limit is the debt limit that must be stopped (Scott, 1977).

The first study of financial distress was reported by Beaver (1966), creating the basis for the development of probabilistic prediction models by Martin (1977), Ohlson (1980), Zavgren (1985), and Lau (1987). Researchers have different definitions of financial hardship. The basis for this research uses Pecking order theory and Trade off theory. Poor managerial judgment in managing cash flow can have an impact on financial difficulties in the long term, and vice versa. Because too much debt can increase financial risk and the possibility of facing financial difficulties if the company cannot meet its debt payment obligations.

Maintaining cash levels has a strong positive impact on a company's financial performance, especially when the company faces a crisis situation. The cash held will play a role in preventing financial constraints and providing assistance when financial constraints have occurred (Adjei, 2013; Alnori, 2020; Lozano & Yaman, 2020). The Covid-19 pandemic has also increased uncertainty in the organizational environment which has a significant impact on financial difficulties (Bui & Thach, 2022). Companies that generate more Operating Cash Flow in the post-distress period and have higher profitability, liquidity and growth in the pre-distress period require significantly less time to resolve financial distress in order to survive (Huang, Lin & Huang, 2022).

2.2. Cashflows and Financial Distress

Financial distress is a condition of financial decline experienced by a company for several years in a row, which can result in bankruptcy (Platt & Platt, 2002). financial distress starts from the company's inability to fulfill its obligations, especially short-term obligations including liquidity obligations and also solvency obligations (Hernadianto, Yusmaniarti & Fraternesi, 2020).

Financial distress can arise due to influences from within the company itself (internal) and from outside the company (external) (Shahwan, 2015). Internal reasons include cash flow issues, significant debt, and losses in the company's operating activity over a number of years. Meanwhile, external influences include government policies that might raise the company's burden and rising interest rate policies that produce a rise in the company's interest burden. The corporation was in financial trouble before it went bankrupt. Financial ratios from companies are commonly used in financial distress studies.

Zmijewski created a bankruptcy prediction model in 1983. The Zmijewski model is a probit model which is an alternative to regression analysis that uses a cumulative normal probability distribution. Zmijewski's probit analysis uses financial ratios that measure performance, leverage and liquidity to predict a company's financial difficulties (Grice & Dugan, 2003). Zmijewski stated the cut-off value for calculations in the Zmijewski method as follows $X > 0$ (positive) that the company is said to be in the category of companies experiencing financial difficulties and heading towards bankruptcy, and $X < 0$ (negative) The company is in the category of a healthy company and has no problems with financial difficulties. From the results of previous research studies, the accuracy level of Zmijewski's analysis for predicting company bankruptcy was 84%.

Operating cash flow is the basis for determining a company's financial health (Gentry et al., 1990). If a company's operating cash flow improves, its financial and credit health, potentially reducing credit risk. Growth in net operating assets and changes in asset turnover have a significant influence in explaining future profitability (Dickinson, 2011; Jooste, 2007; Kordestani et al., 2011; Sayari & Mugan, 2013). Based on this, the researcher determined the following hypothesis.

H1: Operational Cash Flow influences financial distress before and during the Covid Pandemic.

Higher cash flow volatility is associated with lower average levels of investment in capital expenditures, research and development, and advertising. This association indicates that firms do not use external capital markets to fully cover cash flow shortfalls, but rather permanently cancel investments (Minton, Schrand, 1999). Corporate investments show greater sensitivity to cash flow during downturns (Tayem, 2022). Based on this, the researcher determined the following hypothesis.

H2: Investment cash flow influences financial distress before and during the Covid pandemic.

Negative funding activities such as issuing more shares or taking on excessive debt can erode investor confidence, causing a decline in share prices and reduced access to capital markets, resulting in financial difficulties. Funding cash flow affects a company's ability to invest in growth opportunities, such as acquisitions, research and development, and capital expenditures. Financial difficulties are identified with deficit operating cash flows, surplus cash flows from investing and financing activities, or negative operating and financing cash flows, but positive cash flows from investing activities (Kordestani et al., 2011). Based on this, the researcher determined the following hypothesis.

H3: Funding Cash Flow influences financial distress before and during the Covid Pandemic.

Based on data on selected companies from the Istanbul Stock Exchange, Sayari and Mugan (2013) show that operating cash flow has a negative relationship with the financial distress index, whereas cash flow from financing activities has a positive relationship. Additionally, cash flows from investing activities are not statistically significant. The results of other research in Malaysia state that the cash flow ratio is a reliable tool for predicting financial difficulties (Kamaluddin et al, 2019). The results of research in Indonesia also concluded the same thing, namely that cash flow had a significant positive effect on financial difficulties (Oktari et al, 2023). Based on this, the researcher determined the following hypothesis.

H4: Operational Cash Flow, Investment Cash Flow, Funding Cash Flow influence financial distress before and during the Covid Pandemic.

Company size and company age are factors that influence the financial difficulties of a business. Small companies are more vulnerable to financial difficulties than large companies. This is due to their poor market experience, limited connectivity, and limited financial resources (Freixas et al., 2000; Honjo, 2000). This is the most fundamental determinant of a business's use of public debt (Denis & Mihov, 2003; Isayas & McMillan, 2021). However, research by Kamaluddin et al. (2019) based on 150 data from consumer and industrial products companies listed on Bursa Malaysia concluded that there is no relationship between company size and the level of financial distress.

Based on this explanation, the research framework model is formulated as follows:
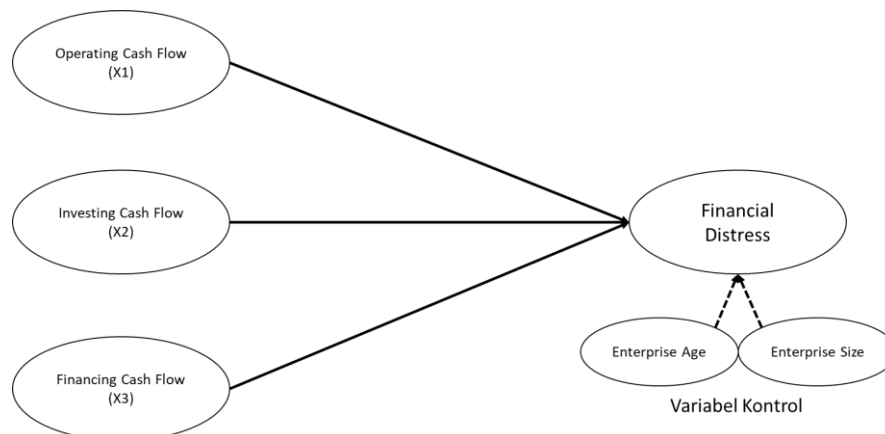
Figure 2. Research Framework

3. Research Method and Materials

To study the impact of cash flow on the financial difficulties of companies listed on the Indonesian stock market in the Tourism, Hotel and Restaurant subsector from 2017 to 2022, the author uses the multiple linear regression method. This is for a detailed analysis of the impact of cash flow on the financial difficulties of private companies listed on the Indonesian stock market before and during the pandemic.

Multiple linear regression analysis is a statistical analysis technique of forecasting the influence value of two or more variables on the dependent variable to prove whether or not there is a functional relationship or causal relationship between the independent variable and the dependent variable. There has been no research regarding the relationship between cash flow and financial difficulties using multiple linear regression in Indonesia's tourism, hotel and restaurant sub-sectors. Therefore, the author uses a multiple linear regression method to test the difference in the influence of cash flow on financial distress before and during the pandemic.

Associative (connection) research with quantitative analytic methods (data in the form of numbers) is employed. Associative study is research that uses the Zmijewski model to establish the association between two or more variables, in this case the Operational Cash Flow Ratio Level, Investment Cash Flow Ratio Level, Funding Cash Flow Ratio Level, and Financial Difficulty Level.

Research data are companies listed on the Indonesian Stock Exchange. The author chose a research sample consisting of companies that met the following conditions: (1) Tourism, hotel and restaurant sub-sector companies in 2017-2022; (2) Not a company that has been delisted from the Indonesian Stock Exchange; and (3) the selected companies have complete financial reports for the 2017–2022 period and all financial reports have been audited and accepted as reasonable and correct based on the materiality principle.

The final research data includes 34 companies. The observation sample accounts for more than 90% of the total population listed on the Indonesian Stock Exchange, so it is guaranteed to represent the research as a whole.

Based on an overview of the research literature, the authors derive from the research model of Sayari and Mugan (2013) to propose the following research model:

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_4 + \beta_4 X_4 + \beta_5 X_5 + \varepsilon$$

To estimate the relationship between cash flow and corporate financial distress, the study mea ensures financial distress and the volatility of cash flows as follows: Many studies have used indicators such as Altman's Z Score (Altman, 1968), Ohlson's O index (Ohlson, 1980), and Zmijewski's index (Zmijewski, 1984) to measure corporate financial distress.

According to Kim and Upneja (2014), Zmijewski's index is the most commonly used because it is not sensitive to different states of financial distress and is also insensitive to different business sectors. Therefore, the study measured the dependent variable -FD- according to Zmijewski's model with the following determination:

$$FD = -4,803 - 3,6\frac{NI}{TA} + 5,4\frac{TL}{TA} - 0,1\frac{CA}{CL}$$

where FD with a negative value indicates relatively stronger financial health, and less likely to occur financial distress, while a positive value of FD shows the opposite result; or generalized that an increase in FD indicates a higher probability of financial distress. NI is profit after tax, TA is total assets, TL is liabilities, CA is current assets, and CL is current liabilities.

There are various ways to calculate cash flow volatilities such as the annual standard deviation of operating cash flow on total assets (Karimli, 2018); or the standard deviation of returns before taxes, interest and depreciation on total net assets (Keefe & Yaghoubi, 2016). In this study, the independent variables related to each cash flow, including OCF is operating cash flow normalized by the total assets. This independent variable is expected to have a negative impact on FD (Jooste, 2007; Kordestani et al., 2011; Sayari & Mugan, 2013); ICF is the net investment cash flow normalized by total assets and expected to have a negative effect on FD (Dickinson, 2011; Kordestani et al., 2011); FCF is the net cash flow from financing activities normalized by total assets and is expected to have a positive effect on FD (Kordestani et al., 2011; Sayari & Mugan, 2013; Shamsudin & Kamaluddin, 2015). In addition, the research model has two control variables, including (i) AGE calculated from the established year to the study year and (ii) SIZE measured by the logarithm of net sales.

Table 1. Description of The Model Variables

Variable	Indikator	Skala
Financial Distress (Y)	$FD = -4{,}803 - 3{,}6\dfrac{NI}{TA} + 5{,}4\dfrac{TL}{TA} - 0{,}1\dfrac{CA}{CL}$	Rasio
Operating Cash Flow (X$_1$)	$OCF = \dfrac{Net\ Operating\ Cash\ Flow}{Total\ Assets}$	Rasio
Investing Cash Flow (X$_2$)	$ICF = \dfrac{Net\ Investing\ Cash\ Flow}{Total\ Assets}$	Rasio
Financing Cash Flow (X$_3$)	$FCF = \dfrac{Financing\ Net\ Cash\ Flow}{Total\ Assets}$	Rasio
Firm Age (X$_4$)	Umur Perusahaan = Tahun Penelitian – Tahun Pendirian Perusahaan	Rasio
Firm Size (X$_5$)	Size = Ln Total Asset	Rasio

4. Results and Discussion

Based on processing data analysis techniques using normality tests, multicollinearity tests, heteroscedasticity tests. The processed data was declared normal with a One-sample Kolmogorov-Smirnov test significance value of 0.083 > 0.05. There is no multicollinearity and the data tested is spread out and heterogeneous.

4.1. Descriptive Statistics

The variables of the model are described in Table 1. Descriptive statistics of the variables are shown in Table 2.

Table 2 presents descriptive statistics with mean, median, and standard deviation as well as minimum and maximum values of the variables in the model. The results of the descriptive statistical analysis show differences in financial distress, cash flows, and other factors affecting the financial.

Table 2. Descriptive Statistics

Variable	N	Minimum	Maximum	Mean	Std. Deviation
Financial Distress (Y)	161	1,56	1,61	1,5757	0,00451
Operating Cash Flow (X$_1$)	161	-2,46	4,65	0,9434	1,41995
Investing Cash Flow (X$_2$)	161	-3,00	3,47	-0,0415	1,47331
Financial Cash Flow (X$_3$)	161	-3,00	1,12	-1,7680	1,13124
Firm Age (X$_4$)	161	8,00	54,00	27,9688	15,51320
Firm Size (X$_5$)	161	24,68	31,06	27,4650	1,31265

Source: Results calculated the authors

Financial Distress of private companies listed on the Indonesian stock market. The issuer's FD has an average of 1.5757, a minimum value of 1.56, and a maximum value of 1.61. This shows that there are no major disparities in financial distress conditions among listed private companies in the 2017-2022 decade. A positive FD indicates relatively poor financial health, and the possibility of financial distress is greater. This means that the greater the FD value, the higher the possibility of financial distress. This proves that Indonesian private companies were greatly impacted by the Covid-19 pandemic crisis in 2019–2020. The consequence of this situation is that many private companies are experiencing financial difficulties.

For the independent variable, operating cash flow has an average of 0.9434, a minimum of −2.46, and a maximum of 4.65. This shows that there is a large difference in the operating cash flows of issuers from 2017 to 2022. Investment cash flows have the lowest difference with ICF values ranging from −3.00 to 3.47, the average value is −0.0415. Financial cash flow has an average value of −1.7680, a minimum value of −3.00, and a maximum value of 1.12. So there is a big difference in financial cash flows for private issuers.

For the control variable, the average company age was recorded at 27.96. Company size differs between private issuers, the value ranges from 24.68 to 31.06, and the mean value is 27.46.

For Results, provide sufficient detail to allow the results to be meaningful and informative. For Discussion, this should explore the significance of the results of the work, not repeat them. A combined Results and Discussion section is often appropriate. Avoid extensive citations and discussion of published literature.

4.2. Correlation Coefficient Matrix

Table 3 shows the correlation coefficient between the dependent and independent variables. The correlation coefficient between the independent variables is not greater than 0.8, so there is no multicollinearity between the variables (Cohen, 1988). Financial cash flow (X_3) and Firm Size (X_5) are variables correlated positively with FD (Y). Meanwhile, operating cash flow (X_1), Investing cash flow (X_2), and Firm Age (X_4) negatively correlated with variable FD.

Table 3. The Correlation Coefficient Matrix Among Variables

Variable	FD (Y)	OCF (X_1)	ICF (X_2)	FCF (X_3)	AGE (X_4)	SIZE (X_5)
Financial D (Y)	1,000					
Operating Cash Flow (X_1)	-0,266	1,000				
Investing Cash Flow (X_2)	-0,515	0,204	1,000			
Financial Cash Flow (X_3)	0,283	0,144	-0,152	1,000		
Firm Age (X_4)	-0,045	0,119	-0,103	-0,074	1,000	
Firm Size (X_5)	0,004	-0,011	0,050	0,192	0,223	1,000

4.3. Correlation Regression Analysis Result

The regression test in this research produces the following research equation.

Y = 1,579 - 0,001X_1 - 0,001X_2 + 0,001X_3 - 1,311X_4 - 4,055X_5 + ε

which means the relationship between OCF and ICF to FD is negative or inversely proportional, while the relationship between FCF and FD is positive or in the same direction, with the same coefficient value, namely 0.001, while the constant value is 1.579. while the control variables, namely firm age and firm size, have larger coefficients. This means that in assessing FD, control factors such as firm age and firm size greatly influence the assessment. Determination result can be seen from table 4. Model summary where the influence (R^2) on the dependent variable is 34.6% or 0.346. with an R value of 0.588.

Table 4. Model Summary

R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
.588[a]	.346	.324	.00369	1.138

The Table 5 (Coefficients Regression) and table 6 (ANOVA) of the results of the t-test and f-test hypothesis testing.

Table 5. The Coefficients Regression

	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	t	Sig.
(Constant)	1.579	.007		241.265	.000
OCF	-.001	.000	-.205	-2.970	.003
ICF	-.001	.000	-.438	-6.37	.000
FCF	.001	.000	.241	3.454	.001
Age	-1.311	.000	-.045	-.654	.514
Size	-4.055	.000	-.012	-.171	.864

Table 6. ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
Regression	.001	5	.000	16.267	.000[b]
Residual	.002	154	.000		
Total	.003	159			

a. Dependent Variable: Financial_Distress
b. Predictors: (Constant), Size, OCF, ICF, Age, FCF

Based on the results of the t test, the overall cash flow variable has an influence on financial distress both partially and simultaneously. The significance value of the t-test for the OCF, ICF and FCF variables is less than 0.005, so hypothesis 1, hypothesis 2 and hypothesis 3 are accepted. And the resulting F-test significance value is smaller than 0.005, meaning that together the cash flow variables have an influence on financial distress.

5. Conclusion

This study delved into the financial distress of private companies listed on the Indonesian stock market, examining their cash flow dynamics and the impact on their financial well-being. The analysis revealed a nuanced relationship between different cash flow components—Operating Cash Flow (OCF), Investment Cash Flow (ICF), and Financial Cash Flow (FCF)—and the presence of financial distress among these entities.

Firstly, the individual examination of OCF, ICF, and FCF indicated a substantial influence on financial distress. Each cash flow variable, when considered independently, demonstrated a statistically significant impact. This validation of hypotheses 1, 2, and 3 underscored the significance of these cash flow elements in influencing the financial health of these companies.

Moreover, the combined effect of these cash flow variables was equally notable. The F-test results reaffirmed that when analyzed together, OCF, ICF, and FCF collectively hold sway over the occurrence of financial distress among these companies. This highlights the necessity for a comprehensive evaluation of multiple cash flow components to gauge the true financial stability of these entities.

In essence, this study underscores the intricate relationship between cash flow dynamics and financial distress among Indonesian-listed private companies. While each cash flow element independently shapes the financial landscape, the amalgamation of these factors significantly impacts the vulnerability to financial distress. These findings emphasize the importance of robust cash flow management strategies for mitigating financial risks and sustaining financial health within these entities, especially amidst volatile economic conditions and unforeseen challenges.

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