

Influence of Leverage, Liquidity, and Operating Cash Flow on Banking Sector Performance During Covid-19: Evidence from the Indonesia Stock Exchange

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Abstract— the purpose of this study is to identify the relationship between leverage, liquidity, and operating cash flow and company performance during the COVID-19 pandemic, focusing on companies listed on the Indonesia stock Exchange and engaged in the banking sector. The study spans from 2020 to 2022 and employs quantitative methods using secondary data. The population consists of 45 banking companies listed on the Indonesia stock Exchange. The sample selection was carried out using sampling technique, resulting in a sample of 39 banking companies and yielding 117 data point from the financial data of these companies. The study was tested with the EViews 12 application using panel data to analyze the quantitative data. Based on the findings, leverage has a negative effect on company performance, liquidity has no effect on company performance, and operating cash flow has a significant positive effect on company performance.

Keywords—*Leverage; Liquidity; Operating Cash Flow; Company Performance*

I. INTRODUCTION

This research investigates the performance of banking sector companies during the COVID-19 pandemic, spanning from late 2019 to 2022. The outbreak disrupted global social activities and economic growth. In response, governments worldwide implemented restrictions on community activities to curb the virus's spread, which had ripple effect across various sectors. [1] The pandemic had a particularly strong impact on the economic growth of Indonesia's banking sector. During this period, companies encountered heightened challenges stemming from adverse selection (risks present before transactions) and moral hazard (risks arising after transactions), leading to a reduction restricted to bank loans and commercial credit [2].

During the economic downturn, commercial banks in the banking sector encountered numerous difficulties. These challenges led to a rise in non-performing loans, which in turn eroded public trust. This situation further exacerbated the credit crisis, the pandemic led to a reduction in lending activities across the affected period [1]. Multiple perspectives suggest that leverage influences a company's performance. [3] contend that financial leverage is inversely related to company performance. [4] an additional study discovered a relationship between leverage and company performance. [5] conversely, some research has shown that leverage and firm performance are positively correlated. Research [6] some researchers assert that liquidity significantly and positively influences financial performance. Similarly, argues [7] research indicates that liquidity positively affect commercial banks' performance, and argues [8] studies indicate that liquidity has a positive influence on a company's performance. [9] research demonstrates that the loan-to-deposit ratio has a negative impact on banks' financial performance. This ratio is significant because it server as a measure of a bank's liquidity and assists investors in evaluating whether the bank is managing its liquidity effectively. [10] research shows that liquidity, when measured using the current ratio, influences company performance as indicated by return on assets. [11] researchers contend that cash generated from operating activities has a positive impact on a company's performance. Similarly, [12] studies demonstrate that operating cash flow significantly and positively influences company performance. [13] researchers have positive that cash flow exerts a statistically significant influence on the financial performance of banks. Also

[14], The research proposes that there is a significant and positive correlation between a company's financial performance and its cash flow from operating activities.

This study's significance lies in its focus on the unexpected COVID-19 pandemic period from 2019 to 2022, which had a global economic impact, particularly on the banking sector. It investigates how banks managed to endure during this crisis. The research uses operating cash flow as a metric to evaluate the financial health of banking companies during the pandemic. Operating cash flow data provides external parties and creditors with insights into a company's financial status. Understanding the relationship between operating cash flow and financial stability is vital, especially in banking. Another strength of this study is its comparison of findings with previous banking sector research, highlighting similarities or differences in results.

This paper is divided into four segments. The first segment discusses the introduction related to the condition being studied. The third segment presents and interprets the results obtained by the author. Finally, the fourth segment discusses the conclusion and provides recommendations for future researchers.

II. RESEARCH METHODS

This research is a type of quantitative study with data obtained in the form of panel data. The population comprises all banking companies listed on the Indonesia Stock Exchange from 2020 to 2022, totaling 45 banks. The sample consisted of 39 banking companies, resulting in 117 data points, using the purposive sampling method. Researchers used the EViews version 12 application to analyze the quantitative data. The regression model selection approach included the Common Effect Model (CEM), Fixed Effect Model (FEM), and Random Effect Model (REM). The purpose of this study was to determine whether there is an influence of Leverage (X1), Liquidity (X2), and Operating Cash Flow (X3) on Company Performance (Y). the measuring instruments used for each variable in this study are Leverage (DAR), Liquidity (LDR), Operating Cash Flow (CFO), and Company Performance (ROA).

In financial management, financial leverage is the use of company assets and financial sources with fixed costs with the aim of increasing the profits of potential shareholders [15]. Companies that use debt as a source of financial are said to leverage [16]. During the COVID-19 pandemic, banking firms with high levels of debt reflected high leverage risk [17].

H1: Leverage has a positive effect on company performance.

During the COVID-19 period, community demand for companies was very depressed, making it difficult for companies to operate. This also resulted in delays in collecting receivables or even reducing receivables [18]. Before the COVID-19 pandemic outbreak, companies have a higher tendency to maintain good liquidity [19]. On the balance sheet side, banking sector companies provide loans to borrowers who are not liquid, thus affecting the flow of credit to the economy. On the debt side of the balance sheet, banking companies provide liquidity according to their deposit needs. These two roles make banks vulnerable to liquidity risk because banks are expected to convert short-term deposits into medium and long-term loans.

H2: Liquidity has a positive effect on company performance

A key factor supporting liquidity is the company's operating cash availability. Operating cash flow is essential for maintaining production processes. The volume of cash generated from business activities serves as an indicator of whether a company can generate sufficient funds to repay debts, sustain operation, distribute dividends, and invest in new ventures without relying on external financial. [11]. During a pandemic, a company's survival and continued operations depend on its ability to maintain substantial cash flow [20].

H3: Operating Cash Flow has a positive effect on company performance.

III. RESULT AND DISCUSSION

Panel Data Regression Analysis

This study employs panel data regression analysis to examine how Debt to Asset Ratio (DAR), Loan to Deposit Ratio (LDR), and Cash Flow from Operations (CFO) affect return on Assets (ROA) in 39 banking firms from 2020 to 2022. The research considers three regression methods for panel data: Common Effect

(CE), Fixed Effect (FE), and Random Effect (RE). to identify the most suitable regression model estimation method, the study performs panel regression model selection tests, specifically the Chow test and the Hausman test, prior to conducting the panel regression analysis.

Table 1. Banking sector companies on the Indonesia Stock Exchange

Pengujian	Hasil	Keputusan
Uji Chow	Prob. > 0,05	CEM
	Prob. < 0,05	FEM
Uji Hausman	Prob. > 0,05	CEM
	Prob. < 0,05	FEM

Source: Data Olahan Eviews 9,2024

The panel regression model selection test, as shows in Table 2, indicate that the Fixed Effect (FE) is the most appropriate for analyzing the impact of DAR, LDR, and CFO on ROA across 39 banking companies from 2020 to 2022. The Chow test yielded a value of 0.000, which falls below the 0.05 p-value threshold, suggesting the suitability of the Fixed Effect (FE). This is further corroborated by the Hausman test, which also produced a -pvalue of 0.000, less than the 0.05 probability value, confirming that the Fixed Effect is indeed the optimal choice for this analysis.

Table 2. Descriptive Statistics

	X1	X2	X3	Y
Mean	0,775913	0,966903	0,017344	-0,005603
Median	0,836675	0,823830	0,030698	0,006390
Maximum	1,567740	3,862939	0,347664	0,084093
Minimum	0,074918	0,000191	-0,600986	-0,802829
Std. Dev.	0,194902	0,616025	0,148424	0,085543

Source: Processed Data Eviews 9,2024

The data analysis reveals that the leverage variable (X1), measured by DAR, has a mean of 0.775, minimum value of 0.074, a maximum value of 1.1.567, with a standard deviation of 0.195. the liquidity variable (X2), measured by LDR, shows a mean of 0.966, a minimum of 0.000, a maximum of 3.863, with a standard deviation of 0.016. the operating Cash Flow variable (X3), measured by CFO, a mean 0.017, a minimum -0.601, a maximum 0.384, and a standard deviation of 0.148. the company's return variable (Y) has a mean of -0.006, a minimum of -0.803, a maximum of 0.084, with a standard deviation of 0.086.

These result suggest that leverage (X1), and liquidity (X2) have relatively strong relationship, as indicatd by the proximity of their mean and maximum value, and their comparatively large standard deviation. Conversely, the operating cash flow (X3) variable shows a relatively weak relationship, evidenced by its mean being closer to the minimum value and its smaller variance, as shows by the closeness of its mean to its standard deviation.

Table 3. T-test and F-test Results

Dependent Variable: Y				
Method: Panel Least Squares				
Date: 07/09/24 Time: 15:48				
Sample: 2020 2022				
Periods included: 3				
Cross-sections included: 39				
Total panel (balanced) observations: 117				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.454415	0.060966	7.453606	0.0000
X1	-0.571922	0.064744	-8.833627	0.0000
X2	-0.019591	0.020384	-0.961080	0.3396
X3	0.154853	0.043700	3.543573	0.0007
Effects Specification				
Cross-section fixed (dummy variables)				
R-squared	0.824472	Mean dependent var	-0.005603	
Adjusted R-squared	0.728517	S.D. dependent var	0.085543	
S.E. of regression	0.044572	Akaike info criterion	-3.110180	
Sum squared resid	0.148997	Schwarz criterion	-2.118631	
Log likelihood	223.9455	Hannan-Quinn criter.	-2.707623	
F-statistic	8.592259	Durbin-Watson stat	2.934966	
Prob(F-statistic)	0.000000			

Source: Processed Data Eviews 9,2024

From the output table 3 above, the multiple regression equation can be described as follows:

$$Y = a + b_1X_1 + b_2X_2 + b_3X_3$$

$$Y = 0.454 - 0.571X_1 - 0.019X_2 + 0.154X_3$$

. The multiple regression analysis results in Table 3 demonstrate the validity of the regression model, with a Prob. (F-statistic) value of 0.000, below the 0.05 significance threshold. This confirms the model's utility in analyzing the relationships between financial leverage (X1), liquidity (X2), operating cash flow (X3) and company performance (Y).

The effect of DAR(X1) on ROA (Y) shows a probability value of 0.000 and a negative coefficient of -0.571, indicating high financial leverage in the banking sector. This suggests an inverse relationship between a bank's financial leverage and its performance.

The impact of LDR (X2) on ROA (Y) has a p-value of 0.339 and negative coefficient of -0.019, pointing to low liquidity levels in the banking sector. This implies that lower liquidity correlates with lower company performance banking.

The influence of CFO(X3) on ROA (Y) shows a p-value of 0.000 (below the 0.05 significance level) and a positive coefficient of 0.154. This indicates that increased working capital can enhance company performance.

The R-squared value of 0.824 indicates that 82.4% of the variation in banking company performance during the COVID-19 period is collectively explained by the model's independent variables: leverage, liquidity, and operating cash flow. The remaining 17.6% of the variation is attributable to factors not included in this study. This high R-squared value suggest that the model has strong predictive power of banking company during the studies period.

Effect of Leverage on Banking Company Performance

Based on the results of hypothesis testing of 117 observations using the t-test analysis method, the p-value of 0.000 and the coefficient value of -0.571 show that there is a negative and significant effect of Leverage as an independent variable on the firm's performance as a dependent variable in Indonesian listed banking firms. The R-squared value of 0.824 indicates that 82.4% of the variation in banking company performance is explained by all the independent variables in the model collectively (leverage, liquidity, and operating cash flow), not just the leverage variable alone. The remaining 17.6% is influenced by other factors not included in this study. In a multiple regression model, the R-squared value represents the combined explanatory power of all independent variables, not just one. It would be incorrect to attribute all of this explanatory power to leverage alone. This high R-squared value suggest that the model, including all its variables has strong predictive power for explaining variation in banking company performance during the studied period. Furthermore, the hypothesis testing in Table 3 above shows a t-value of -8.834, which is greater in absolute terms than the t-table value of 1.981. This further confirms that leverage has a negative and significant effect on firm performance. These results are consistent with the findings of, who [3] which claim that leverage has a negative and significant effect on firm performance and ROA is the dependent variable. Therefore, the result of the hypothesis is as follows:

H1: Leverage has a negative and significant effect on company performance.

The Effect of Liquidity on the Performance of Banking Companies

Based on the data processing result in Table 3, a p-value of 0.399 and a coefficient value of -0.019 was obtained, which indicates that the bank has no significant effect. liquidity for the development of Indonesian listed banking companies. The R-squared test result of 0.824 indicates that 82.4% of the variation in company performance is collectively explained by all the independent variables in this model, the remaining 17.6% is attributed to other factors not included in this study. Therefore, it can be interpreted that a high R-squared value shows how the high level of credit in the Indonesian banking sector negatively and insignificantly affects the performance of banking companies. Hypothesis testing, which results in a t-value of -0.961, which is less than the t-table value of 1.981, further supports this conclusion. Thus, it can be concluded that the null hypothesis (H0) is accepted and the alternative hypothesis (Ha) is rejected. liquidity does not affect the efficiency of the company. This is consistent with the finding that [21] shows that liquidity does not significantly affect firm performance.

H2: Liquidity has no effect on company performance.

The Effect of Operating Cash Flow on Company Performance

Based on the result obtained in Table 3, the p-value of 0.000 and the coefficient value of 0.154 show that the operating cash flow has a positive and significant effect on the company. result banking companies. The R-squared value is quite high, indicating that large operating cash flow has a significant impact on the company's bottom line. The resulting t-value of 3.544, which is greater than the t-table value of 1.981, proves that operating cash flow has a positive and significant effect on firm performance when ROA is the measurement tool for the dependent variable. Based on the analysis result, we can reject the null hypothesis (H0) and accept the alternative hypothesis (Ha). This is consistent with the results of previous studies such as [14] argue that operating cash flow has a positive and significant effect on the performance of banking companies.

H3: Operating a Cash Flow has a positive and significant effect on company performance.

IV. CONCLUSION

From the result of data processing using a sample of banking companies sector, the results obtained are Leverage has a significant negative effect on company performance, with a Prob value. $0.000 < 0.05$ and a Coefficient value of -0.571, Liquidity has no effect on company performance with a Prob value. $0.339 > 0.05$ and a Coefficient value of -0.019, and Operating Cash Flow has a significant positive effect on company performance with a Prob value. $0.000 < 0.05$ and a Coefficient value of 0.154.

For future researchers examining the banking sector during the post-COVID-19 pandemic period, it is recommended to reconsider the variables and measurement instruments used in their studies. Researchers may also explore the impact of leverage, liquidity, and operating acsh flow from different perspectives.

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