

Signalling Theory and Stock Returns: A Pre- and Post-Pandemic Comparison

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Abstract

This study examines the effect of Current ratio (CR) and Debt to Equity Ratio (DER) on stock returns, with Return on Assets (ROA) as a moderating variable, before and after the COVID-19 pandemic. It aims to explain how financial ratios are interpreted differently by investors in stable versus crisis conditions. The research uses secondary data from banking companies listed on the Indonesia Stock Exchange (IDX) during 2018–2021. A purposive sampling of 43 firms produced 172 observations, analyzed with EVIEWS 13 through comparative period testing. The novelty of this study lies in exploring the moderating role of ROA in the relationship between liquidity, leverage, and stock returns across two distinct periods, providing insights into investor behavior under uncertainty. Results show that before the pandemic, CR had a positive significant effect, DER was insignificant, and ROA strengthened the effects of both ratios on returns. After the pandemic, CR lost significance, DER showed a significant negative effect, and the moderating role of ROA shifted. These findings highlight that investor focus moved from liquidity to risk management and resilience during economic shocks. The study concludes that maintaining liquidity, prudent leverage, and sustainable profitability are vital to enhance investor confidence in crisis periods.

Keywords: Current ratio; Debt to Equity Ratio; Return on Asset; Signalling Theory; Stock Return.

Abstrak

Penelitian ini menganalisis pengaruh Rasio Lancar (CR) dan Rasio Utang terhadap Ekuitas (DER) terhadap pengembalian saham, dengan Rasio Pengembalian Aset (ROA) sebagai variabel moderator, sebelum dan setelah pandemi COVID-19. Tujuannya adalah untuk menjelaskan bagaimana rasio keuangan diinterpretasikan secara berbeda oleh investor dalam kondisi stabil versus kondisi krisis. Penelitian ini menggunakan data sekunder dari perusahaan perbankan yang terdaftar di Bursa Efek Indonesia (IDX) selama periode 2018–2021. Dengan *purposive sampling* terhadap 43 perusahaan menghasilkan 172 observasi, yang dianalisis menggunakan EVIEWS13 melalui pengujian periode perbandingan. Keunikan studi ini terletak pada penyelidikan peran moderasi ROA dalam hubungan antara likuiditas, leverage, dan pengembalian saham melintasi dua periode yang berbeda, memberikan wawasan tentang perilaku investor di bawah ketidakpastian. Hasil menunjukkan bahwa sebelum pandemi, CR memiliki efek positif yang signifikan, DER tidak signifikan, dan ROA memperkuat efek kedua rasio tersebut pada

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pengembalian. Setelah pandemi, CR kehilangan signifikansinya, DER menunjukkan efek negatif yang signifikan, dan peran moderasi ROA bergeser. Temuan ini menyoroiti bahwa fokus investor berpindah dari likuiditas ke manajemen risiko dan ketahanan selama guncangan ekonomi. Studi ini menyimpulkan bahwa menjaga likuiditas, leverage yang bijaksana, dan profitabilitas yang berkelanjutan sangat penting untuk meningkatkan kepercayaan investor pada masa krisis.

Kata Kunci: *Current ratio; Debt to Equity Ratio; Return on Asset; Signalling Theory; Stock Return.*

1. INTRODUCTION

The COVID-19 pandemic is one of the global crises that has a profound impact on economic stability, corporate financial performance, and capital market movements in various countries, including Indonesia. Since it was announced in early 2020, this pandemic has caused high uncertainty, supply chain disruptions, decreased people's purchasing power, and restrictions on business activities (Arianto, 2020). As a result, many companies are experiencing liquidity pressures, increased debt burdens, and decreased profitability which have direct implications for investors' assessment of the company's prospects. This condition is reflected in the volatility of stock prices that increased significantly during the crisis period, thus giving rise to the urgency to understand what financial factors are able to provide strong signals for investors in making investment decisions, both in the pre- and post-pandemic periods (Doda & Sabir, 2025). To clarify this phenomenon, this study will also display a picture of the average stock return in the period before and after the pandemic, so that readers can visually see changes in the pattern of return movements that occur. This visualization is expected to strengthen understanding of the differences in capital market responses to macroeconomic conditions and internal factors of companies represented through financial ratios.

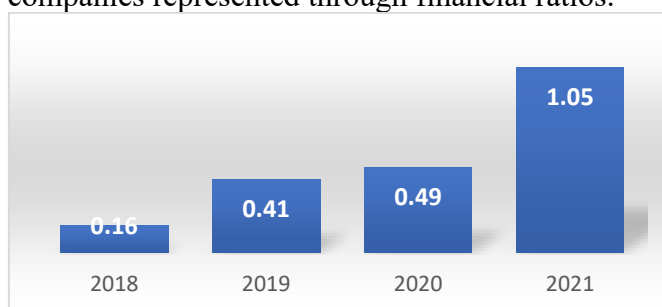


Figure 1. Average Stocks Return

Source: IDX data processed, (2025)

Figure 1 above shows the development of the average stock return for the 2018–2021 period which reflects significant differences before and after the pandemic. In the pre-pandemic period (2018–2019), stock returns were still relatively low with a value of 0.16 in 2018 and a moderate increase to 0.41 in 2019, reflecting stable market conditions and investor responses that interpreted financial signals such as liquidity (CR), leverage (DER), and profitability (ROA) within

normal frameworks. Entering 2020 when the COVID-19 pandemic hit, the average return actually increased to 0.49 despite uncertainty and economic turmoil. This phenomenon suggests that investors are starting to emphasize the importance of CR as a signal of a company's ability to survive, interpret DER more carefully as the risk of default increases, and assess ROA as a key factor that differentiates resilient companies from vulnerable ones. In 2021, stock returns jumped significantly to the level of 1.05 as the economy recovers, where investors' interpretation of financial signals shifts again: CR is not only assessed in terms of liquidity but also efficiency, DER can be perceived positively if supported by high ROA, while profitability is the main indicator in assessing the competitiveness of companies post-crisis. This difference in pattern confirms that the pandemic not only affected stock return rates, but also changed the way investors interpret financial signals, so a comparative analysis of the influence of CR and DER on stock returns with ROA as a moderator before and after the pandemic is important within the framework of signalling theory (Syafar et al., 2025).

From the perspective of signalling theory, the company's financial statements and information are a means of communication by management to investors and other stakeholders. Financial ratios such as liquidity, solvency, and profitability not only reflect the company's internal conditions, but also serve as signals on future performance prospects (Herbowo & Inadi, 2025).

Current ratio is a liquidity ratio that measures a company's ability to meet short-term obligations with its current assets. The higher the current ratio, the greater the company's ability to pay off its short-term obligations, thus giving a positive signal to investors regarding short-term financial stability (Gunawan, 2023). Before the pandemic, CR tended to be perceived as a measure of the efficiency of smooth asset management. However, after the pandemic, the emphasis on liquidity became much more important as a company's survival was largely determined by its ability to maintain cash flow. Thus, CR has a stronger potential influence on stock returns in times of crisis than in normal times (Almeida, 2021). The study (Aminah, 2021; Marito & Sjarif, 2020; Suryana & Anggadini, 2020) concluded that the current ratio had an effect on stock returns while the research (Arsy et al., 2024; Scott, 2025; Sihombing & Sinaga, 2020) concluded that the current ratio had no effect on stock returns.

DER is a leverage ratio that describes the extent to which a company is financed by debt compared to equity. A high DER generally signifies greater financial risk, as the company has to bear a significant interest burden (Rahmawati & Hadian, 2022). Under normal conditions, the use of debt can still be viewed positively if it is able to increase profits through the leverage effect. However, during the pandemic, DER tends to be interpreted more negatively because the uncertainty of cash flow makes the ability to pay off obligations doubtful. This suggests that the pandemic may change investors' sensitivity to DER ratios. Investors are more cautious of companies with high levels of leverage, which has the potential to lower market confidence and impact stock returns (Arianto, 2020). The study (Khan et al., 2024; Rohmatin et al., 2022; Widiarti & Apriyanti, 2023) concluded that DER had an effect on stock returns, while research (Fadhilah &

Akbar, 2024; Hocky et al., 2023; Rijata et al., 2022) concluded that DER had no effect on stock returns.

ROA is used to measure a company's profitability, which is how effectively a company utilizes its assets in generating profits (Alarussi & Gao, 2023). In this study, ROA plays a role as a moderation variable that strengthens or weakens the influence of CR and DER on stock returns. Companies with high levels of profitability can reduce investors' risk perception of high DERs, because despite high leverage, they are still able to generate sufficient profits. On the other hand, companies with high current ratios but low profitability may be seen as inefficient, so the positive signal from CR becomes less strong. Therefore, ROA as a moderation variable is crucial to understand the deeper relationship between financial ratios and stock returns (Nukala & Prasada Rao, 2021). The study (Chakkravarthy et al., 2024; Chiang et al., 2024; Laurens & Mulyani, 2022; Rasyad et al., 2020; Siahaan et al., 2021) concludes that ROA plays a role as a moderator of stock returns.

Research on signalling theory in the context of economic crisis and pandemic has also made a significant contribution to the development of capital market literature in Indonesia. Most previous studies have focused on normal conditions, while comparative studies before and after the pandemic are still limited. By conducting a comparative analysis, this research is expected to be able to fill the research gap and provide a new perspective on the dynamics of market response to financial signals in normal versus crisis situations (Agustin et al., 2023; Nurcahyono et al., 2021)

From a practical perspective, the results of this research are expected to provide benefits for investors, company management, and capital market regulators. For investors, this research can be a guideline in evaluating financial information that is relevant in making investment decisions in the midst of uncertainty. For company management, the results of this research can be the basis for formulating a more effective financial communication strategy so that the signals provided can be received appropriately by the market. As for regulators, this study can provide insight into the importance of transparency and quality of financial statements in maintaining capital market stability, especially in times of crisis.

Thus, a comparative analysis of the influence of current ratio and DER on stock returns with ROA as a moderation variable, both before and after the pandemic, is a relevant, urgent research, and has significant theoretical and practical contributions. This research not only deepens the understanding of the application of signal theory in the context of the Indonesian capital market, but also strengthens the literature on the dynamics of corporate financial factors on stock returns in the face of global uncertainty.

2. LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

The Signalling Theory was first introduced by Spence in 1973 which explained that in conditions of information asymmetry, managers as internal parties of the company have better information than investors, so they need to convey

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signals through financial statements or company policies. These signals can be in the form of performance indicators such as Current ratio (CR) which reflects liquidity, Debt to Equity Ratio (DER) which indicates the funding structure, and Return on Assets (ROA) which confirms the level of profitability. Investors then interpret these signals to make investment decisions, where positive signals usually increase confidence and have an impact on stock price increases and returns, while negative signals actually reduce investor interest. In the context of the COVID-19 pandemic, the urgency of this theory is getting stronger as crisis conditions magnify information asymmetry and increase investors' dependence on financial signals published by companies, making it relevant to analyze how different influences of CR, DER, and ROA affect stock returns before and after the pandemic (Yasar et al., 2020) .

Current Ratio to Stock Returns Before and After the Pandemic

In Signalling Theory, the Current ratio (CR) is seen as one of the important signals that reflects a company's ability to meet its short-term obligations. Before the COVID-19 pandemic, investors generally interpreted CR as an indicator of the health of a company's liquidity in relatively stable market conditions (Rochmah, 2024). High CR gave a positive signal that the company was able to maintain its smooth operations, thereby increasing investor confidence and potentially increasing stock returns. However, in the post-pandemic period, investors' interpretation of CR has shifted (Arianto, 2020) . Uncertain conditions, pressure on cash flow, and high business risks make investors not only assess the high and low CR, but also the effectiveness of the use of current assets. A CR that is too high can be perceived negatively because it indicates the existence of assets that are not managed productively. On the other hand, CR proportional to operational needs shows the efficiency of working capital management and gives a positive signal to investors. The study (Primasatya & Arliana, 2024; Putri & Ramadhan, 2023; Sari, 2020) concluded that the current ratio had an effect on stock returns, while the study concluded that the (Hadiningrat et al., 2017; Primasatya & Arliana, 2024; Putri & Ramadhan, 2023) current ratio had no effect on stock returns. Thus, there is a difference in the influence of CR on stock returns before and after the pandemic, where in normal periods CR is more emphasized on liquidity aspects, while in crisis and post-crisis periods CR is more related to the efficiency and resilience of the company.

H₁: There is a Difference in the Effect of Current Ratio on Stock Returns Before and After the Pandemic

Debt to Equity Ratio to Stock Returns Before and After the Pandemic

The Debt to Equity Ratio (DER) describes the company's capital structure, specifically the proportion of debt use to equity. In the perspective of Signalling Theory, DER serves as a signal that indicates the company's funding strategy and financial risk level (Azizah & Yuliana, 2022) . In the period before the COVID-19 pandemic, a moderate level of DER can be perceived positively because it indicates that the company is able to utilize leverage to increase profits which ultimately increases stock returns. In contrast, a DER that is too high signals negatively

because it increases the risk of default and lowers investor interest. However, in the post-pandemic period, the interpretation of DER has become more sensitive. Global uncertainty, revenue fluctuations, and rising interest costs make companies with high DER considered riskier because debt burdens can weigh on cash flow amid economic conditions that have not fully recovered (Nugroho & Pertiwi, 2021). On the other hand, companies with low or proportional DER actually give positive signals about prudence in managing financial risks and the ability to maintain operational stability. Thus, there is a difference in the effect of DER on stock returns, where in the period before the pandemic moderate leverage can drive stock returns, while after the pandemic high DER is more likely to be perceived negatively because it increases uncertainty for investors (Nocco & Stulz, 2022). Research (Kurniawan, 2021; Lubis & Alfiyah, 2021; Sausan et al., 2020) concludes that DER has an effect on stock returns while (Irman & Purwati, 2020; Mangantar et al., 2020; Saputra, 2022) concludes that DER has no effect on stock returns Stock Returns.

H₂: There is a Difference in the Effect of Debt to Equity Ratio on Stock Returns Before and After the Pandemic

Return on Assets Moderates the Current Ratio to Stock Returns Before and After the Pandemic

Current ratio (CR) is a liquidity indicator that shows a company's ability to meet its short-term obligations, and in Signalling Theory it is a liquidity signal for investors. However, the influence of CR on stock returns is not always consistent as investors' interpretations can differ depending on the company's profitability. This is where Return on Assets (ROA) comes into play as a moderation variable (Pradista & Kusumawati, 2022). Prior to the COVID-19 pandemic, investors tended to interpret high CR as a positive signal if supported by a strong ROA, as it indicates that current assets are not only sufficient to close liabilities but are also productively managed to generate profits. On the other hand, a high CR without ROA support is considered inefficient because it shows the existence of idle assets that do not contribute to profitability, so that its influence on returns is weak. After the pandemic, the role of ROA as moderation is increasingly crucial. Business uncertainty and pressure make investors more selective in assessing financial signals. A high CR is considered a positive signal if it is accompanied by a good ROA, because it indicates that the company is not only able to survive liquidally but also remain productive in generating profits. Thus, ROA strengthens the positive influence of CR on stock returns in healthy companies, while weakening the influence of CR on companies with low profitability (Cheema-Fox et al., 2021; Hsu et al., 2021; Polii et al., 2023; Pradista & Kusumawati, 2022; Widjaja et al., 2023; Yaser et al., 2022).

H₃: Return on Assets Strengthens the Difference in the Influence of Current Ratio on Stock Returns Before and After the Pandemic

Return on Assets Moderates Return on Assets to Stock Returns Before and After the Pandemic

The Debt to Equity Ratio (DER) shows the company's funding structure through debt relative to its own capital. In the framework of Signalling Theory, DER signals financial risk: a high DER can be interpreted as a negative signal as the debt burden increases, but it can also be interpreted as a positive if the company is able to optimize leverage to increase profits. At this point, Return on Assets (ROA) is an important factor that moderates the influence of DER on stock returns. Before the COVID-19 pandemic, investors tended to see moderate DER as a positive signal when accompanied by high ROA, because it indicates that debt is used productively to generate profits, thereby increasing stock returns. In contrast, a high DER with a low ROA is viewed negatively because it indicates a large risk of default without compensation for earnings performance. After the pandemic, the role of ROA as moderation is getting stronger. The conditions of the crisis and economic recovery have made investors put more emphasis on the company's ability to generate profits rather than just the capital structure. A high DER would be seen as very risky without ROA support, while a moderate DER with a high ROA is perceived as a positive signal that the company is able to utilize funding efficiently amid uncertainty. Thus, ROA strengthens the positive influence of DER on stock returns in profitable companies, and weakens the influence of DER when profitability is low (Akash et al., 2023; Azizah et al., 2023; Imdad et al., 2024; Omodara, 2023; Sulistyanie & Sumantri, 2020).

H₄: Return on Asset Strengthens the Difference in the Influence of Debt to Equity Ratio on Stock Returns Before and After the Pandemic

3. METHODS

This research is a quantitative research with a comparative approach. This approach was chosen because the study aims to analyze and compare the influence of financial variables, namely Current Ratio (CR), Debt to Equity Ratio (DER), and Return on Assets (ROA) moderation on stock returns in the period before and after the COVID-19 pandemic. With a quantitative approach, this study examines the relationship between variables based on numerical data obtained from financial statements and capital market data, as well as tests hypotheses using inferential statistical methods.

The population of this study is all banking companies listed on the Indonesia Stock Exchange (IDX) during the 2018–2021 period. The time range was chosen to represent conditions before the pandemic (2018–2019) and after the pandemic (2020–2021). From this population, the sample determination was carried out by the purposive sampling method, which is a sample selection technique based on certain criteria that are relevant to the research purpose. The sample criteria used include: (1) banking companies that are consistently listed on the IDX throughout 2018–2021, (2) companies that routinely publish audited annual financial statements.

Table 1. Sample Selection Criteria

Num	Purpose	Sum
1	Banking companies listed on the Indonesia Stock Exchange in 2018 - 2021	49
2	Inconsistent banking companies publish financial statements on the Indonesia Stock Exchange in 2018 - 2021	-6
3	Number of company samples	43
4	Research year (2018 - 2021)	4
5	Total research observation data	172

Source: IDX data processed, (2025)

The type of data used is secondary data in the form of annual financial statements of banking companies published through the official website of the IDX (www.idx.co.id) and other relevant official sources. In addition, stock return data is calculated based on the monthly closing share price which is also obtained from official IDX sources or trusted financial data platforms. The data collection technique is carried out through the documentation method, which is by collecting, recording, and processing secondary data that is publicly available. The use of secondary data was chosen because this study focuses on empirical testing based on historical data that has been officially published, so that its validity and reliability can be accounted for.

In a quantitative study, clarity of variable definitions and measurements is very important so that the analysis can be carried out systematically and the results can be accounted for. Therefore, before data processing is carried out, each variable used in this study needs to be operationalized through the determination of conceptual definitions, operational definitions, and indicators that can be measured quantitatively. This study uses four main variables, namely stock return as a dependent variable, Current ratio (CR) and Debt to Equity Ratio (DER) as independent variables, and Return on Assets (ROA) as a moderation variable. With clear variable operationalization, this study is expected to be able to provide consistency in measurements, reduce interpretation bias, and support empirical hypothesis testing within the framework of Signalling Theory.

Table 2. Variable Operationalization

Variable	Measurement	Measurement Scale
Stock Return (Alexakis et al., 2021)	$\text{Stock Return} = (P_t - P_{t-1}) / P_{t-1}$	Ratio
Current Ratio (Suryana & Anggadini, 2020)	$\text{Current Ratio} = \frac{\text{Current Asset}}{\text{Current Liability}}$	Ratio
Debt to Equity Ratio (Tarmidi et al., 2020)	$\text{DER} = \frac{\text{Total Liability}}{\text{Total Equity}}$	Ratio

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Return on Assets (Tarmidi, 2021)	$ROA = \frac{EAT}{Total Asset}$	Ratio
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The data analysis in this study was carried out with the help of EViews 13 software because it is able to process panel data and time sequence comprehensively. The analysis stage includes a descriptive statistical test to describe the distribution of data, followed by a classical assumption test that includes normality, multicollinearity, heteroscedasticity, and autocorrelation to ensure the validity of the regression model. Furthermore, a panel data regression test was used to test the influence of Current Ratio (CR) and Debt to Equity Ratio (DER) on stock returns, both before and after the pandemic, with the selection of panel models (Common Effect, Fixed Effect, or Random Effect) through the Chow, Hausman, and Lagrange Multiplier tests. To test the role of Return on Assets (ROA) moderation, Moderated Regression Analysis (MRA) was used. With the combination of these analysis stages, this study is expected to produce accurate empirical findings and be able to comprehensively explain how Signalling Theory reflects the influence of CR, DER, and ROA on stock returns in pre- and post-pandemic conditions.

4. RESULTS AND DISCUSSION

Table 3. Descriptive Analysis

	Stock Return	Current ratio	Debt to Equity Ratio	Return on Asset
Mean	0.5145	1.4909	23.9382	0.0040
Median	0.0000	1.2122	4.8910	0.0057
Maximum	15.8478	11.2394	3219.0728	0.0910
Minimum	-0.8534	0.7930	0.0052	-0.1806
Std. Dev.	2.1086	1.1635	245.0701	0.0264
Observations	172	172	172	172

Descriptive analysis of 172 observations showed differences in the characteristics of research variables in the period before and after the pandemic. The Stock Return showed an average of 0.5145 with high fluctuations (Std. Dev. 2.1086), reflecting the sharply increased market volatility especially during the pandemic, where the maximum extreme value reached 15.8478 and the minimum was -0.8534. The current ratio with an average of 1.4909 and a median of 1.2122 is relatively stable, but there is an increase in liquidity variation during the pandemic period as some companies increase cash to maintain short-term repayment. Debt to Equity Ratio (DER) is the variable with the most extreme variation; The average is 23.9382 with a standard deviation of 245.0701 and a maximum of 3219.0728, indicating that before the pandemic the company's leverage was still under control, while after the pandemic some companies experienced a significant surge in debt to support operations. Meanwhile, the Return on Asset (ROA) with an average of 0.0040 and a median of 0.0057 illustrates low asset efficiency both before and after the pandemic, but greater variation was seen during the pandemic, marked at a

minimum of -0.1806 due to profit performance pressures. Thus, this description of the data indicates that the pandemic had a major effect on fluctuations in stock returns and increased leverage, while liquidity and profitability were relatively more stable but still under pressure.

Table 4. Model Selection

Testing	Probability	Conclusion
Chow	0.3147	CEM
Hausman	0.4355	REM
Langrange Multiplier	0.4878	CEM

Based on the results of the panel regression model selection tests, the Chow test produced a probability value of 0.3147 (> 0.05), indicating that the Common Effect Model (CEM) is more appropriate than the Fixed Effect Model (FEM). Furthermore, the Hausman test yielded a probability value of 0.4355 (> 0.05), suggesting that the Random Effect Model (REM) is preferable to FEM. To confirm these results, a Lagrange Multiplier (LM) test was conducted and produced a probability value of 0.4878 (> 0.05), indicating that there is no significant individual or time-specific effect in the data. Therefore, the final decision is to use the Common Effect Model (CEM) as the most appropriate estimation method in this study.

From a theoretical perspective, the use of CEM is justified given the characteristics of the banking sector, which is highly regulated and operates under uniform prudential standards, accounting principles, and supervisory frameworks imposed by regulatory authorities. These regulatory mechanisms tend to homogenize operational behavior across banks and over time, thereby minimizing unobserved individual and temporal heterogeneity. As a result, differences among banks are assumed to be adequately captured by the observed explanatory variables, without requiring bank-specific or time-specific effects. Consequently, the CEM is considered the most efficient and parsimonious model for explaining the relationship between the variables in the banking sector context.

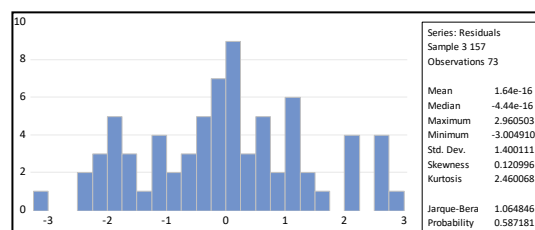


Figure 2. Normality Testing

Source: Data processed with EVIEWS 13, (2025)

Statistically, the Jarque-Bera value of 1.064846 with a probability of 0.587181 (> 0.05) indicates that the residual is normally distributed. This means that there is no violation of the assumption of normality. A Skewness value (0.120996) that is close to zero indicates an almost symmetrical distribution of data, while a Kurtosis value (2.460068) that is close to a normal value of 3 indicates that the peak of the residual distribution is in the mesokurtic category (not too pointed).

or too flat). Thus, it can be concluded that the residues in this model are normally distributed so that the results of panel regression estimation using the Common Effect Model (CEM) can be trusted and meet one of the important requirements in the classical assumption test.

Table 5. Multicollinearity Testing

	RS (Y)	CR (X1)	DER (X2)	ROA (Z)
RS (Y)	1	0.031993	-0.02771	-0.1667
CR (X1)	0.031993	1	-0.01339	0.254241
DER (X2)	-0.02771	-0.01339	1	-0.00588
ROA (Z)	-0.1667	0.254241	-0.00588	1

The results of the multicollinearity test through the correlation matrix showed that all independent variables, namely Current ratio (CR), Debt to Equity Ratio (DER), and Return on Assets (ROA), had relatively low correlation values with each other, where the highest correlation was only 0.254 (between CR and ROA), far below the threshold of 0.80 usually used to detect multicollinearity. The correlation values of CR with DER (-0.013) and DER with ROA (-0.005) were even close to zero, indicating a very weak relationship. Similarly, the correlation of independent variables to Stock Return (RS) was also low, namely CR with RS (0.032), DER with RS (-0.028), and ROA with RS (-0.167), which indicates that there is no relationship that is too strong but still worthy of regression testing. Thus, it can be concluded that there are no symptoms of multicollinearity in this model, so that the CR, DER, and ROA variables can be used simultaneously in the panel regression analysis without causing estimation distortion or bias in the study results.

Table 6. Heteroscedasticity Testing

Heteroskedasticity Test: Breusch-Pagan-Godfrey			
Null hypothesis: Homoskedasticity			
F-statistic	0.4470	Prob. F(4,126)	0.7744
Obs*R-squared	1.8330	Prob. Chi-Square(4)	0.7664
Scaled explained SS	38.8922	Prob. Chi-Square(4)	0.0000

The results of the Breusch-Pagan-Godfrey heteroscedasticity test showed the value of Prob. F 0.7744 and ObsR-squared 0.7664 which are greater than 0.05, so it can be concluded that the model does not suffer from heteroscedasticity problems and the homoscedasticity assumption is met. Thus, this panel regression model is declared free of significant heteroscedasticity so that the estimation results remain valid for use in hypothesis testing.

At this stage, a hypothesis test was carried out to analyze the influence of independent variables on stock returns by comparing two different periods, namely Model 1 (pre-pandemic, 2018–2019) and Model 2 (post-pandemic, 2020–2021). This period separation is carried out to see the difference in the influence of financial factors such as the Current Ratio (CR), Debt to Equity Ratio (DER), and the role of Return on Assets (ROA) moderation on stock returns before and after the shock of the crisis due to the COVID-19 pandemic. With this approach, it is

hoped that it will be known whether the pandemic conditions have brought about significant changes in capital market mechanisms, especially in how investors respond to corporate financial signals.

Table 7. Hypothesis Testing

Variable	Pre-Pandemic				Post-Pandemic				Conclusion
	Coefficient	Std. Error	t-Statistic	Prob.	Coefficient t	Std. Error	t-Statistic	Prob.	
C	-1.882	0.576	-3.267	0.002	-0.006	0.660	-0.009	0.993	Accepted Hypothesis
CR	1.791	0.422	4.241	0.000	0.565	0.463	1.220	0.226	
DER	0.005	0.006	0.911	0.365	-0.031	0.010	-3.271	0.002	
ROA*CR	-18.421	4.300	-4.284	0.000	14.807	8.278	1.789	0.078	
ROA*DER	-2.223	2.344	-0.949	0.346	12.690	3.900	3.254	0.002	
F-Statistics		0.000				0.000			
R-Square		0.268				0.427			

The results of hypothesis testing by comparing Model 1 (pre-pandemic) and Model 2 (post-pandemic) showed that there was a difference in the influence between variables on stock returns. In the pre-pandemic period, the current ratio (CR) had a significant positive effect on stock returns (coefficient of 1.791; p-value 0.000), indicating that the high level of liquidity was perceived by investors as a positive signal. On the other hand, the Debt to Equity Ratio (DER) is not significant (p-value 0.365), so the debt-based capital structure has not been a major concern. Return on Assets (ROA) moderation strengthens the relationship between CR and stock returns with a significant negative effect (p-value 0.000), which reflects that profitability actually weakens the influence of liquidity because investors emphasize the efficiency of asset use. In contrast, the interaction of ROA and DER was not significant (p-value 0.346).

However, in the post-pandemic period, the results show a shift in patterns. The current ratio is no longer of significant effect (p-value 0.226), indicating that investors no longer value liquidity as the main signal. On the other hand, DER has a significant negative effect (coefficient -0.031; p-value 0.002), which means that high debt is seen as risky during times of crisis, thus suppressing stock returns. The moderation of ROA towards CR turned positive although only significantly at the level of 10% (p-value 0.078), reflecting an improvement in the role of profitability in strengthening the liquidity relationship with stock returns. Meanwhile, ROA strengthened the relationship between DER and stock returns positively significantly (p-value 0.002), indicating that investors believe that debt can still increase in value if balanced with good profitability. The pre-pandemic R-Square value of 0.427 is higher than the post-pandemic value (0.268), which shows that the research variables are better able to explain the variation in stock returns before the pandemic than after the pandemic.

The results of the hypothesis test showed that both in the pre-pandemic and post-pandemic periods, the F-Statistic value was significant (p-value 0.0000). This

means that simultaneously all independent variables (CR and DER) and their moderation interaction with ROA affect stock returns. In other words, the research model is feasible to be used to explain the phenomenon of stock returns in both observation periods. However, there is a difference in the level of explanatory ability of the model indicated by the R-Square value.

In the post-pandemic period, the R-Square value of 0.427 shows that the Current ratio, DER, and ROA moderation variables are able to explain 42.7% of stock return variations, higher than pre-pandemic which was only 0.268 or 26.8%. This is in line with Signalling Theory, where post-pandemic conditions full of uncertainty make investors pay more attention to the company's fundamental signals as the basis for investment decisions, so that the influence of financial variables on stock returns becomes stronger. In contrast, in the relatively stable pre-pandemic period, external factors such as market sentiment and economic policy were more dominant, so the model's ability to explain stock return variations was lower.

Based on the test results, there is a difference in the effect of the current ratio (CR) on stock returns before and after the COVID-19 pandemic. In the pre-pandemic period, CR has a significant positive effect on stock returns, indicating that corporate liquidity was perceived by investors as a positive signal of the firm's ability to meet short-term obligations and maintain operational stability (Tarighi et al., 2024). In relatively stable market conditions, high liquidity reflects sound financial management and reduces perceived risk, thereby increasing investor confidence and stock returns (Blessing & Sakouvogui, 2023). However, in the post-pandemic period, the effect of CR on stock returns becomes insignificant, suggesting a shift in investor priorities. The heightened uncertainty caused by the COVID-19 crisis such as supply chain disruptions, changes in consumption behavior, and macroeconomic instability reduced the relevance of liquidity as a primary indicator of firm prospects. Instead, investors placed greater emphasis on factors associated with long-term resilience, including capital structure, profitability, and policy responses supporting economic recovery (Fassas et al., 2021). This shift implies that financial signals are interpreted differently under crisis conditions, where short-term liquidity is less informative than indicators of sustainability and efficiency. These findings are consistent with prior studies showing that crisis periods alter market attention from traditional liquidity measures toward variables reflecting firms' adaptive capacity and strategic financial management (Fassas et al., 2021; Messaoud et al., 2023; O'Neill, 2024; Wullweber, 2020).

Based on the test results, there is a difference in the effect of the Debt to Equity Ratio (DER) on stock returns before and after the COVID-19 pandemic. In the pre-pandemic period, DER does not have a significant effect on stock returns, indicating that debt-based capital structure was not a primary consideration for investors in evaluating firm performance under relatively stable economic conditions (Gajdosikova et al., 2025). During this period, investors tended to place greater emphasis on liquidity and operational stability, while leverage was not perceived as a critical source of risk. In contrast, in the post-pandemic period, DER has a significant negative effect on stock returns (Chiu et al., 2022). The economic

shock caused by the pandemic characterized by declining revenues, liquidity pressures, and heightened cash flow uncertainty has increased investor sensitivity to leverage-related (Wenjie, 2024). As a result, a high level of debt is perceived as a signal of weaker financial resilience and a higher probability of financial distress, which discourages investment and leads to lower stock returns. These findings indicate that the COVID-19 pandemic altered market interpretation of capital structure signals, shifting investor attention from short-term stability toward indicators of long-term financial sustainability and risk exposure. Consequently, DER becomes a more influential determinant of stock returns in the post-crisis period (Demmou et al., 2021; D'Orazio, 2021, 2023; Topić-Pavković, 2024).

Based on the test results, there is a difference in the moderating role of Return on Assets (ROA) in the relationship between the current ratio (CR) and stock returns before and after the COVID-19 pandemic. In the pre-pandemic period, ROA is able to strengthen or weaken the effect of CR on stock returns, reflecting relatively stable profitability conditions that allow liquidity to be interpreted by the market as a credible indicator of overall financial performance (Syafar et al., 2025). Under these conditions, firms with higher profitability are better positioned to convert liquidity into value creation, thereby enhancing investor confidence. In contrast, in the post-pandemic period, the moderating effect of ROA weakens and becomes insignificant. Heightened economic uncertainty, declining purchasing power, and increased market risk reduce the effectiveness of profitability as a supporting signal, making liquidity less responsive to variations in firm performance (Herbowo & Inadi, 2025). This shift indicates that during crisis conditions, investors are more cautious in interpreting profitability-based information, as short-term earnings are perceived as less reliable in predicting future returns (Doda & Sabir, 2025). These findings suggest that the COVID-19 pandemic altered the way profitability interacts with liquidity in influencing stock returns, a result that is consistent with prior empirical evidence (Badar et al., 2025; Chan et al., 2024; Malino et al., 2025).

Based on the test results, there are differences in the moderating role of Return on Assets (ROA) in the relationship between the Debt to Equity Ratio (DER) and stock returns before and after the COVID-19 pandemic. In the pre-pandemic period, firms with higher ROA are better able to utilize leverage effectively, as strong profitability reduces perceived debt-related risk and allows investors to interpret higher DER as a value-enhancing strategy rather than a financial burden (Huang et al., 2023). Under relatively stable economic conditions, profitability strengthens the positive assessment of leverage in generating stock returns. In the post-pandemic period, the moderating effect of ROA weakens as heightened economic uncertainty and potential operational disruptions increase investor sensitivity to leverage risk. Even when profitability remains high, investors adopt a more cautious stance toward debt, as future earnings become less predictable and the risk of financial distress rises (Arianpoor & Naeimi Tajdar, 2024). This indicates that the interpretation of profitability in relation to leverage is contingent on external conditions, where crisis environments reduce the credibility of profitability as a buffer against debt risk (Ahmed et al., 2024). These findings are consistent with empirical evidence showing that crisis periods alter how investors interpret

financial performance and capital structure information in shaping stock returns (Anggita & Anggita, 2023; Dana et al., 2025; Hartati & Zakiyah, 2023; Ihsan et al., 2023; Sohibien et al., 2022).

5. CONCLUSION , LIMITATION AND SUGGESTION

The results of the study show that the COVID-19 pandemic affects the relationship between liquidity, capital structure, profitability, and stock returns. Before the pandemic, the Current Ratio (CR) had a significant positive effect on stock returns, while the Debt to Equity Ratio (DER) had no significant effect. ROA also moderates the influence of CR and DER on stock returns. After the pandemic, the influence of CR became insignificant, DER had a significant negative effect on stock returns, and the effectiveness of ROA as a moderator changed. This suggests that pandemic conditions are changing the way investors assess a company's financial factors in determining stock returns, with a greater focus on corporate risk and resilience.

This research has several limitations that need to be considered. First, the research sample was limited to banking companies listed on the IDX in 2018 - 2021, so the results may not be generalized to non-public companies or specific industry sectors outside the sample. Second, this study uses secondary data in the form of financial statements, so that it only reflects the reported financial condition and does not capture non-financial factors such as managers' perceptions or internal strategic decisions. Third, the study compares the periods before and after the COVID-19 pandemic in aggregate, without taking into account more detailed temporal variations or other external factors that may affect stock returns, such as government policies, macroeconomic conditions, or global market volatility.

Based on the results of the study, future research is encouraged to expand the sample scope by including firms from various sectors or non-listed companies to enhance the representativeness of the findings. In addition, integrating financial indicators with non-financial information such as governance quality, risk management practices, and corporate policies would provide a more comprehensive understanding of the determinants of stock returns. The use of longer observation periods or longitudinal approaches is also recommended to better capture shifts in investor behavior and market dynamics over time. From a policy perspective, the findings offer important implications for the Financial Services Authority (OJK) and capital market regulators. The changing relevance of financial signals before and after the pandemic highlights the need for regulators to strengthen disclosure requirements related to firms' financial resilience, particularly concerning leverage management, liquidity adequacy, and profitability sustainability. Enhancing transparency in these areas can help reduce information asymmetry and improve market confidence during periods of economic uncertainty. Furthermore, regulators may consider encouraging standardized reporting on non-financial aspects such as digital transformation, innovation strategies, and sustainability initiatives to support more informed investment decisions, especially in crisis conditions.

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