

DOI: <https://doi.org/10.38035/dijefa.v7i4><https://creativecommons.org/licenses/by/4.0/>

Received: 23 August 2026 | Revised: 10 September 2026 | Accepted: 17 September 2026

Analysis of the Role of Profitability, Ownership Structure, and Capital Structure with Liquidity as a Mediating Variable in Achieving Optimal Company Value

Harold Kevin Alfredo^{1*}, Rizki Agung Wibowo², Muhammad Irfan Pratama³, Hiro Sejati⁴¹Universitas Malahayati, Lampung, Indonesia, kevinmnj@malahayati.ac.id²Universitas Malahayati, Lampung, Indonesia, rizkiagungw@malahayati.ac.id³Universitas Malahayati, Lampung, Indonesia, irfanmnj@malahayati.ac.id⁴Universitas Malahayati, Lampung, Indonesia, hirosejati@malahayati.ac.id*Corresponding Author: kevinmnj@malahayati.ac.id¹

Abstract: This study investigates how profitability, ownership structure, and capital structure influence firm value, with liquidity considered as a potential mediating factor. The sample includes 22 non-financial firms from the LQ45 index between 2022 and 2025, yielding 88 firm-year observations. Panel data regression analysis was performed using a Fixed Effects Model, incorporating year effects and unit-clustered standard errors, while the Sobel test was applied to assess indirect effects. The results indicate that profitability, ownership structure, and capital structure do not significantly affect liquidity. Furthermore, profitability, ownership structure, and liquidity do not have a significant impact on firm value. Meanwhile, capital structure exerts a negative influence on firm value, though this is significant only at the 10% level. Sobel test results reveal that liquidity does not mediate the effects of profitability, ownership structure, or capital structure on firm value. The results imply that changes in firm value among LQ45 non-financial companies during this period are more strongly influenced by time-specific or annual conditions than by the examined financial variables. The study offers empirical support that, for these firms between 2022 and 2025, liquidity plays a limited role in transmitting the effects of corporate financial attributes to firm value.

Keywords: investment decisions, capital and ownership structure, stock market, asset pricing, panel data models.

INTRODUCTION

Company value (CV) is a crucial metric that indicates how effectively management utilizes corporate resources and provides investors with insight into a company's future potential. For publicly traded companies, firm value not only describes the financial condition during a specific period but also the market's assessment of their capacity for growth, long-term sustainability, and ability to improve shareholder returns. Sari and Sedana (2020) found that CV is captured in stock prices and acts as the main criterion for judging the effectiveness

of financial strategies. Paramitha (2020) observed that rising corporate value tends to coincide with growing market confidence in a company's outlook. Given these findings, studies on the factors determining corporate value remain a primary focus in the financial literature, particularly because investor decisions are heavily influenced by information regarding a company's performance, risk, and ability to maintain its economic value.

Various previous studies have sought to explain CV through internal firm factors, including profitability, liquidity, capital structure (CS), firm size (FS), sales growth, and ownership structure (OS). However, empirical findings regarding these factors have not yet shown a fully consistent pattern. Sari and Sedana (2020) and Paramitha (2020) concluded that profitability positively influences CV, whereas liquidity does not show a significant impact. Different results were reported by Mukhtaro et al.(2024) reported that liquidity significantly affects firm value, while profitability does not. These differing research findings indicate that CV cannot be explained solely through direct relationships between variables, as the market's response to a firm's internal conditions is highly dependent on the underlying financial mechanisms.

Profitability is widely considered a key factor in determining a company's value, as it indicates how effectively the firm can generate earnings from its available resources. According to signaling theory, strong profitability conveys a favorable message to investors, suggesting solid business potential and the capacity to deliver satisfactory returns. Putri and Rahyuda (2020) profitability not only positively and significantly influences CV but also mediates CS to CV. Paramitha (2020) also found similar results, indicating that profitability positively affects CV. Mubyarto (2020) also found that profitability has a direct effect on firm value, although its indirect effect through CS may yield different outcomes. The aforementioned research findings indicate that profitability is an important factor, but its effect on CV is not always independent.

Several other studies have yielded differing results, indicating that profitability is not always a direct contributor to CV. Reschiwati et al.(2020) observed no significant impact of profitability on CV within the banking sector. Mukhtaro et al.(2024) also found that profitability did not have a significant effect on CV, although the variable was associated with capital structure. These results imply that a company's earnings may not automatically boost its market value unless accompanied by solid CS, liquidity, or other fundamental conditions deemed relevant by investors. Therefore, profitability is more accurately understood as part of the mechanism for determining a company's value, rather than the sole determinant of that value.

Capital structure is also a widely used variable to explain firm value because it reflects a firm's decisions as it reflects how a company balances debt and equity in its financing. These choices influence the cost of capital, financial risk, operational flexibility, and the ability to pursue investment opportunities. Sari and Sedana (2020) found that CS positively affects firm value and acts as a mediator in the relationship between profitability, liquidity, and CV. However, Paramitha (2020) found different results, showing that capital structure has a negative effect on CV. Conversely, Putro and Risman(2021) found that capital structure has no effect on firm value. These conflicting findings suggest that debt can be viewed favorably when it strengthens a firm's financial capacity and performance, but unfavorably when it raises financial risk and interest burdens.

The prominence of CS as a mediating variable is evident in various previous studies. Sari and Sedana (2020) positioned CS as an intervening variable in the relationship between profitability and liquidity and CV. Afinindy et al.(2021) found that CS mediates the effect of liquidity on CV but does not always mediate the effects of other variables. Reschiwati et al. (2020) found that capital structure does not mediate the effects of liquidity and profitability on CV but can mediate the effect of FS on CV. The results of this study indicate that capital

structure is indeed often used as a mediating mechanism, but its effectiveness remains inconsistent across various sectors, time periods, and firm characteristics. Based on the conclusion in the previous sentence, other mechanisms are still needed to explain how a firm's internal conditions translate into an increase in CV.

In addition to profitability and capital structure, ownership structure is also important in explaining firm value because it relates to oversight mechanisms over management. From an agency theory perspective, the separation between firm owners and managers can lead to conflicts of interest; thus, an effective ownership structure is necessary to ensure that management decisions align with shareholders' interests. Wagdi et al.(2023) found that characteristics of structure OS are related to a CV through the mechanism of stock liquidity. This research is important because it demonstrates that the influence of OS on CV does not always operate directly but can occur through the market's ability to absorb information and trade shares more liquidly.

Liquidity itself is a variable of significant importance, but empirical findings on it remain mixed. While it generally reflects a company's capacity to meet short-term obligations, sustain cash flow, and support ongoing operations, unusually high liquidity can signal underutilized current assets, a situation often viewed unfavorably by investors. Paramitha (2020) found that liquidity, as measured by the current ratio, does not have a significant effect on CV because high current assets do not necessarily indicate efficient use of resources. Sari and Sedana (2020) also found that liquidity has a negative but insignificant effect on CV. Conversely, Mukhtaro et al. (2024) found that liquidity has a significant effect on CV. This inconsistency indicates that liquidity is not sufficiently understood as a standalone variable but must be considered within the framework of inter-variable relationships.

Previous studies generally treat liquidity as an independent variable that influences firm value or as a variable whose effect is mediated by profitability or capital structure. Putro and Risman (2021) concluded that profitability serves as a mediator in the link between liquidity and CV. a finding echoed by Paramitha's study (2020), who also identified profitability as a mediating factor. In contrast, Sari and Sedana (2020) and Afinindy et al. (2021) propose CS as the intermediary in this relationship. This pattern suggests that liquidity is more often positioned as an initial variable that influences other variables, rather than as a mediating mechanism that explains how profitability, ownership structure, and capital structure affect firm value.

Based on the above discussion, there are limitations in previous research that open the door to incorporating liquidity as a mediating variable. Theoretically, high profitability can strengthen a company's ability to generate internal funds, thereby providing the company with greater capacity to meet short-term obligations and maintain operational stability (Putri & Rahyuda, 2020; Sari & Sedana, 2020; Yusuf & Dyarini, 2025) . Capital structure is also related to liquidity because decisions regarding debt usage will affect payment burdens, default risk, and the company's cash needs; thus, an unbalanced use of debt can constrain the company's financial flexibility (Nurwulandari et al., 2021; Sari & Sedana, 2020; Tinus et al., 2024) . Meanwhile, an effective ownership structure can strengthen oversight of management in managing current assets, cash flow, and financing decisions. Thus, ownership mechanisms can play a role in reducing agency conflicts and increasing investor confidence (Wagdi et al., 2023) . Thus, liquidity can be viewed as a channel linking operational performance, financing decisions, and oversight mechanisms to investors' perceptions of firm value. This argument aligns with signaling theory (Spence, 1973) , pecking order theory (Myers & Majluf, 1984) , trade-off theory (Kraus & Litzenberger, 1973) , and agency theory (Jensen & Meckling, 1976) , which collectively explain that firm value is formed through the interaction between performance, risk, financing, and market trust.

The study by Wagdi et al.(2023) provides an important foundation showing that liquidity can act as a mediating mechanism in the relationship between ownership structure and CV. However, that study used stock liquidity, whereas this study focuses on corporate liquidity. Although the liquidity proxies used differ, both stem from the same conceptual foundation: that liquidity conditions represent a company's ability to build market confidence through risk management, financial flexibility, and the capacity to meet financing needs. Stock liquidity refers to how easily investors can buy or sell shares without causing a significant change in price, while corporate liquidity measures a company's capacity to cover its short-term debts and sustain ongoing operations. Both aspects play a key role in shaping investor views on a firm's underlying strength and the level of risk associated with investing in it.

Based on a synthesis of previous research as described in the preceding paragraphs, it can be concluded that prior studies still exhibit several research gaps. First, research findings regarding the effects of profitability, liquidity, CS, and OS on CV remain inconsistent. Second, most studies still use CS or profitability as mediating variables. Meanwhile, corporate liquidity has not been widely used as a mediating variable. Third, studies that test liquidity as a mediating variable use stock liquidity rather than corporate liquidity. Fourth, research that simultaneously integrates profitability, OS, and CS with liquidity as a mediating variable in relation to CV remains limited. The four gaps mentioned above indicate that the mechanism of CV creation still needs to be explained more comprehensively through a model that links operational performance, ownership governance, financing decisions, and corporate liquidity conditions.

This study offers a novel contribution by positioning liquidity as a mediating variable in the relationship between profitability, OS, CS, and CV. The inclusion of liquidity as a mediating variable is based not only on the limitations of previous research but also on the theoretical consideration that CV is not determined solely by profits, ownership composition, or financing policies. Rather, it also stems from a firm's ability to translate these factors into stable financial conditions that are trusted by the market. This study is expected to enrich the literature on CV by providing a more comprehensive explanation of the role of corporate liquidity in the value creation process. Therefore, this study aims to analyze the effects of profitability, OS, and CS on CV, with liquidity serving as the mediating variable. Through this model, this study is expected to explain how a firm's internal characteristics can enhance firm value through its ability to maintain liquidity, while also providing an empirical contribution to the development of CV research of firms listed on the capital market.

The hypotheses proposed in this study are formulated as follows:

- H1: Profitability has a positive effect on firm value.
- H2: Profitability has a positive effect on liquidity.
- H3: Ownership structure has a positive effect on firm value.
- H4: Ownership structure has a positive effect on liquidity.
- H5: Capital structure affects firm value.
- H6: Capital structure affects liquidity.
- H7: Liquidity has a positive effect on firm value.
- H8: Liquidity mediates the effect of profitability on firm value.
- H9: Liquidity mediates the effect of ownership structure on firm value.
- H10: Liquidity mediates the effect of capital structure on firm value.

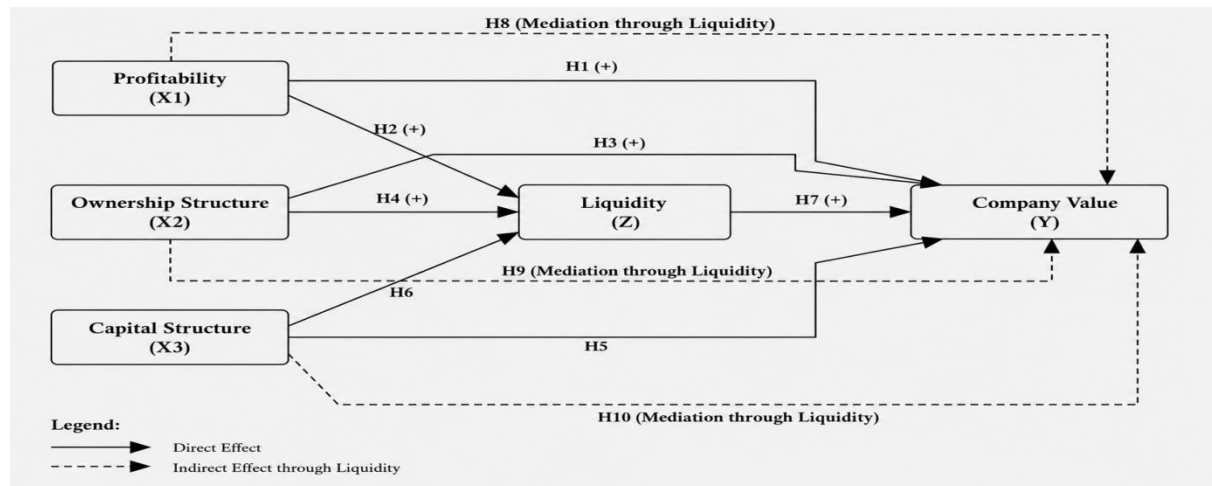


Figure 1. Research Conceptual Framework

METHODS

This study adopts a quantitative explanatory design based on panel data. The population includes all companies listed in the LQ-45 Index on the Indonesia Stock Exchange between 2022 and 2025. A purposive sampling method was applied to select the sample, with inclusion criteria specifying non-financial firms that remained continuously in the LQ-45 Index throughout the observation period, fully disclosed financial statements and annual reports, and had complete data for measuring all research variables. Financial firms were excluded due to their distinct features in capital structure, liquidity, and regulatory environment compared to non-financial firms. The analysis relies on secondary data collected from company financial reports, annual publications, IDX website, and individual corporate websites. The final sample consists of 22 listed companies, yielding 88 total observations.

Firm value, the dependent variable, is measured using Tobin's Q, which integrates a company's market equity value with its financial fundamentals. Three independent variables are examined: profitability, represented by return on assets (ROA); CS measured by debt-to-equity ratio (DER); and OS assessed through the Herfindahl-Hirschman Index. Liquidity, captured by the current ratio (CR), serves as the mediating variable. The specific formulas used to calculate each variable are provided in the following section.

Tobin's Q is calculated using the formula below: (Singh et al., 2018) :

$$Tobin's Q_{it} = \frac{Market\ Value\ of\ Equity_{it} + Book\ Value\ of\ Debts_{it}}{Book\ Value\ of\ Total\ Assets_{it}}$$

Profitability is calculated using the following formula (Salih et al., 2024) :

$$ROA_{it} = \frac{Net\ Income_{it}}{Total\ Assets_{it}}$$

Capital structure is calculated using the formula below (Elisa Dwi Handini & Dwi Ermayanti Susilo, 2025) :

$$Debt\ to\ Equity\ Ratio_{it} = \frac{Total\ Debts_{it}}{Total\ Equity_{it}}$$

The ownership structure is calculated using the Herfindahl-Hirschmann Index (HHI) formula, which is derived from all shareholders disclosed by each company in its annual report. This is because publicly listed companies in Indonesia disclose varying numbers of major

shareholders. Therefore, the HHI is calculated using all shareholders officially disclosed by each company in each observation year (Steinberg et al., 2025) :

$$HHI_{it} = \sum_{j=1}^n S_{jit}^2$$

Liquidity, as the mediating variable, is calculated using the formula below (Puspita & Siswanti, 2021) . However, in this study, the current ratio is expressed as a ratio and is therefore not multiplied by 100%:

$$CR_{it} = \frac{Current\ Asset_{it}}{Current\ Liabilities_{it}}$$

Data analysis was performed using the Gretl software. The analysis included descriptive statistics, a correlation matrix, and a multicollinearity test using *the variance inflation factor*. Regression estimates were obtained using *pooled ordinary least squares, a fixed-effects model, and a random-effects model*. The best model was selected using the F-test to compare the pooled OLS with the fixed-effects model, the Breusch-Pagan LM test to compare the pooled OLS with the random-effects model, and the Hausman test to choose between the fixed-effects and random-effects models. If heteroscedasticity or autocorrelation was detected, estimates were calculated using *robust standard errors*.

The analysis was used three equations. The first equation tests the effects of profitability, OS, and CS on liquidity.

$$CR_{it} = \alpha + \alpha_1 ROA_{it} + \alpha_2 OWN_{it} + \alpha_3 DER_{it} + \mu_i + \lambda_t + \epsilon_{it}$$

The second equation tests the effects of profitability, OS, and CS on CV before liquidity is included in the model:

$$TQ_{it} = \alpha + c_1 ROA_{it} + c_2 OWN_{it} + c_3 DER_{it} + \mu_i + \lambda_t + \epsilon_{it}$$

The third equation tests the direct effects of the independent variables and liquidity as a mediating variable on CV:

$$TQ_{it} = \alpha + c'_1 ROA_{it} + c'_2 OWN_{it} + c'_3 DER_{it} + bCR_{it} + \mu_i + \lambda_t + \epsilon_{it}$$

In the equations above, i denotes the firm, t denotes the observation year, μ_i denotes the firm's unobserved specific characteristics, λ_t denotes the year effect, and ϵ_{it} is the error term. The mediating role of liquidity is tested based on the indirect effects of each independent variable on CV. The third equation is as follows:

$$IE_{ROA} = a_1 x b$$

$$IE_{OWN} = a_2 x b$$

$$IE_{DER} = a_3 x b$$

The significance of each indirect effect was tested using the Sobel test, which compares the magnitude of the indirect effect to its standard error (Sobel, 1982) :

$$Z = \frac{a \times b}{\sqrt{b^2 SE_a^2 + a^2 SE_b^2}}$$

The values of a and SE_a are obtained from the first equation, while the values of b and SE_b are obtained from the third equation. The Sobel test is conducted separately for the ROA-CR-Tobin's Q, OWN-CR-Tobin's Q, and DER-CR-Tobin's Q pathways.

The mediation effect is deemed significant when the absolute value of the Sobel statistic exceeds 1.96 or when the p-value is below 0.05. Partial mediation is present if the indirect effect is statistically significant and the direct effect, represented by coefficient c' , is also still significant. Full mediation occurs when the indirect effect is significant, while the direct coefficient c' becomes insignificant after liquidity is included. The significance of the total effect is not considered an absolute requirement because the assessment of mediation is primarily based on the significance of the indirect effect.

RESULTS AND DISCUSSION

Descriptive Statistical Analysis

The results of this analysis provide preliminary information regarding the trends and levels of variation for each variable before conducting panel data regression tests. The table below presents the descriptive statistics for this study, which utilized data from 22 non-financial companies included in the LQ-45 index for the 2022–2025 period.

Table 1. Descriptive Statistics

Summary Statistics, using observations 1:1–22:4

Variable	Mean	Median	S.D.	Min	Max
ROA	0.0846	0.0674	0.0834	-0.0384	0.455
DER	1.14	0.809	1.08	0.129	6.47
HHI	0.483	0.500	0.116	0.233	0.745
Current Ratio	1.97	1.70	1.25	0.175	5.65
Tobin's Q	1.64	1.10	1.58	0.587	10.6

Source: Data processed using Gretl (2026)

Based on descriptive statistics, ROA has a mean of 0.0846 with a median of 0.0674, a minimum value of -0.0384, a maximum of 0.455, and SD of 0.0834. These results indicate differences in profit-generating ability among companies, including observations that recorded losses and those with relatively high profitability levels. DER has a mean of 1.14 and a median of 0.809, with a maximum value of 6.47 and SD of 1.08. These conditions indicate that the companies' capital structures are quite diverse and are influenced by several observations with high levels of debt. The HHI recorded a mean of 0.483 and a median of 0.500, with a range of 0.233–0.745 and SD of 0.1162. These results show that stock ownership in the sample companies tends to be concentrated, although the degree of concentration varies across observations. The current ratio has a mean of 1.97 and a median of 1.70, with a minimum value of 0.175, a maximum of 5.65, and SD of 1.25. This indicates a fairly large disparity in the companies' ability to meet their short-term obligations. Tobin's Q has a mean of 1.64 and a median of 1.10, with a minimum value of 0.587, a maximum of 10.6, and SD of 1.58. A mean value exceeding one generally indicates that companies are valued by the market above their asset worth. Yet, the gap between the mean and median, along with a notably high maximum value, implies that the mean is skewed by a small number of firms with unusually high valuations. The dataset shows substantial variation across firms in profitability, CS, OS, liquidity, and CV. Given this diversity, panel data analysis is appropriate for accounting for differences both between firms and overtime.

Correlation Analysis

A correlation analysis was conducted to identify the direction and strength of the linear relationships among the research variables prior to estimating the panel data regression. The results of this test provide an initial overview of the relationships between profitability, CS, OS, liquidity, and CV. However, the correlation analysis is not used as a basis for drawing conclusions about causal relationships or for determining the acceptance of hypotheses.

Table 2. Correlation Analysis

Correlation Coefficients, using the 88 observations 1:1 - 22:4

Two-tailed critical values for n = 88: 5% 0.2096, 1% 0.2732

ROA	DER	HHI	Current Ratio	Tobin's Q	
1.0000	0.1110	0.3089	0.1229	0.5116	ROA
	1.0000	0.3517	-0.5691	0.4972	DER
		1.0000	-0.1995	0.3447	HHI
			1.0000	-0.1821	Current Ratio
				1.0000	Tobin's Q

Source: Data processed using Gretl (2026)

Based on Table 2, the relationships between variables show different directions and levels of strength. ROA is positively and significantly correlated with Tobin's Q at 0.5116 and with HHI at 0.3089. DER also has a positive and significant correlation with Tobin's Q of 0.4972 and with HHI of 0.3517. Conversely, the relationship between DER and *the Current Ratio* is negative and significant at -0.5691, which is the strongest correlation in the matrix. These findings indicate that higher levels of debt utilization tend to be associated with lower liquidity. HHI has a positive and significant correlation with Tobin's Q of 0.3447. Meanwhile, its relationship with CR of -0.1995 is not significant. The correlation between CR and Tobin's Q is also negative, at -0.1821, but not significant. All correlation coefficients have absolute values below 0.80. Thus, it can be concluded that, initially, there is no indication of a particularly strong linear relationship among the explanatory variables. Nevertheless, the potential for multicollinearity is confirmed through the VIF test. These correlation results merely illustrate an initial relationship and cannot be used to infer a causal relationship or determine the acceptance of a hypothesis.

Selection of Panel Data Regression Models

We used three panel data regression models in this study, primarily because we included a mediating variable. Each model underwent three tests: the Chow test, the Hausmann test, and the Breusch-Pagan Lagrange Multiplier test. Table 3 below presents the results of the model tests with *the current ratio* as the dependent variable.

Table 3. Results of Panel Model Selection for the Liquidity Equation

Test	Test Statistic	p-value	Decision
Chow Test	F (21,63) = 12.7321	<0.001	FEM
Breusch-Pagan LM	χ^2 (1) = 63.9532	<0.001	REM
Hausman test	χ^2 (3) = 5.4447	0.1420	REM
Selected model		Random Effects Model	

Source: Data processed using Gretl (2026)

Based on Table 3, the *random effects* model was selected because the Hausman test yielded a p-value of 0.141985, which is greater than the hypothesis's p-value of 0.05. In addition, we also calculated the variance inflation factors (VIF) as shown in Table 4.

Table 4. VIF

Variable	VIF	Conclusion
ROA	1.105	Free from multicollinearity
DER	1.141	Free from multicollinearity
HHI	1.246	Free from multicollinearity

Belsley-Kuh-Welsch collinearity diagnostics:

Variance Proportions

lambda	cond	const	ROA	DER	HHI
3,529	1,000	0.002	0.011	0.015	0.001
0.279	3.559	0.011	0.452	0.074	0.001
0.184	4.385	0.030	0.001	0.794	0.007
0.008	20.587	0.957	0.536	0.117	0.991

Source: Data processed using Gretl (2026)

The results of the multicollinearity test show that the VIF for ROA, DER, and HHI are 1.105, 1.141, and 1.246, respectively. All VIF values are well below the threshold of 10, indicating that no serious multicollinearity exists among the independent variables. The Belsley-Kuh-Welsch diagnostics yielded a maximum *condition index* of 20.587, indicating moderate linear dependence, particularly in ROA and HHI. However, this indication is not considered to interfere with model estimation because no *condition index* exceeded 30 and all VIF values remained close to one. After selecting the model to be used and checking the VIFs, a separate REM was estimated at this stage as the final model. The purpose of this separate calculation was to obtain more comprehensive results. However, this model had a Durbin-Watson value of 1.196926, indicating the presence of positive autocorrelation; therefore, the REM was retested using standard errors clustered by unit, and the Hausman test results differed from those obtained before using standard errors clustered by unit. The differences between these two sets of Hausman test results are presented in Table 5.

Table 5. Differences in Hausman Test Results

Test	Hausman p-value	Decision
Conventional Hausman	0.141985	REM
Hausman with clustered standard errors	0.009527	FEM

Source: Data processed using Gretl (2026)

Preliminary results of the Hausman test using conventional standard errors indicate that REM is more appropriate. However, the Durbin-Watson test identified positive autocorrelation within firm units. Therefore, the model was re-estimated using standard errors clustered by firm. The robust Hausman test yielded a p-value of 0.0095, leading to the rejection of the consistency hypothesis for REM. Based on these results, FEM with a year effect and clustered standard errors was used as the final estimation model.

Table 6. Fixed Effects Model with Year Effects and Clustered Standard Errors

Standard errors clustered by unit

	Coefficient	Std. Error	t-ratio	p-value	
const	3.06795	0.706035	4.345	0.0003	***
ROA	0.951796	2.34629	0.4057	0.6891	
DER	-0.203735	0.152976	-1.332	0.1972	
HHI	-1.85645	1.11610	-1.663	0.1111	
dt_2	-0.0483443	0.101376	-0.4769	0.6384	
dt_3	0.0396528	0.166842	0.2377	0.8144	
dt_4	-0.168727	0.228053	-0.7399	0.4676	

Mean of the dependent variable	1.973627	S.D. of dependent variable	1.253905
Sum of squared residuals	16.15853	Standard error of regression	0.518950
LSDV R-squared	0.881872	Within R-squared	0.066594
Log-likelihood	-50.29148	Akaike criterion	156.5830
Schwarz criterion	225.9484	Hannan-Quinn	184.5285
rho	0.095452	Durbin-Watson	1.183597
Joint test on named regressors, F(3,21)	1.68147	Robust test for differing group intercepts, Welch F(21, 24.0)	19.0248
p-value of the joint test	0.201449	p-value of the robust intercept test	2.85199e-10
Wald joint test on time dummies, $\chi^2(3)$	3.34311	p-value of the time-effects test	0.341687

Source: Data processed using Gretl (2026)

Table 6 shows that ROA, DER, and HHI do not have a significant effect on the *Current Ratio*. ROA has a positive coefficient of 0.951796. Meanwhile, DER and HHI have negative coefficients of -0.203735 and -1.85645, respectively. However, all p-values are above 0.05, so changes in profitability, capital structure, and ownership concentration have not been proven to affect a company's liquidity. Simultaneously, the three independent variables also do not have a significant effect on the *Current Ratio*, as indicated by an F-value (3, 21) = 1.68147 with a p-value of 0.2014. The *within* R^2 value of 0.066594 indicates that the model explains approximately 6.6594% of the variation in a company's liquidity during the observation period. A robustness test for differences in intercepts yielded a p-value <0.001, confirming the presence of heterogeneity across firms and supporting the use of FEM. Meanwhile, the year dummy variables were not collectively significant, as the Wald test p-value was 0.341687. This implies that changes in conditions from year to year have not yet shown a significant effect on liquidity.

We then tested a second model that used Tobin's Q as the dependent variable without including the liquidity variable in the model. Table 7 presents the results of the panel model selection for the Tobin's Q equation excluding the liquidity variable.

Table 7. Results of Panel Model Selection with Tobin's Q as the Dependent Variable Without Liquidity

Test	Test Statistics	p-value	Decision
Chow Test	F (21,63) = 11.9860	<0.001	FEM
Breusch-Pagan Lagrange Multiplier	$\chi^2(1) = 39.7345$	<0.001	REM
Hausman Test	$\chi^2(3) = 26.5249$	<0.001	FEM
Selected model	—	—	Fixed Effects Model

Source: Data processed using Gretl (2026)

Based on Table 7, the model selected for the firm value equation without including liquidity is the *Fixed Effects Model*. If the diagnostic results indicate autocorrelation or heteroscedasticity, the model is then estimated using standard errors clustered by unit. Before performing regression estimation using FEM, a multicollinearity test was conducted, the results presented in Table 8 below.

Table 8. Multicollinearity Test Results

Variable	VIF	Conclusion
ROA	1.105	No multicollinearity
DER	1.141	No multicollinearity
HHI	1.246	No multicollinearity

Belsley-Kuh-Welsch collinearity diagnostics:

lambda	cond	const	ROA	DER	HHI
3,264	1,000	0.005	0.029	0.028	0.004
0.427	2.766	0.000	0.587	0.415	0.000
0.284	3.389	0.053	0.342	0.496	0.024
0.025	11.484	0.942	0.042	0.062	0.972

Source: Data processed using Gretl (2026)

The results of the multicollinearity test show that the VIF values for ROA, DER, and HHI are 1.105, 1.141, and 1.246, respectively. All of these values are close to one and well below the threshold of 10. Therefore, there is no multicollinearity issue among the independent variables. The Belsley-Kuh-Welsch diagnostic yielded a highest *condition index* of 11.484, indicating moderate linear dependence. However, the high proportion of variance in this dimension was found only in the constant term and HHI, not simultaneously in two or more independent variables. Therefore, this indication is not considered to interfere with the model estimation. Overall, ROA, DER, and HHI are suitable for use together in the regression equation.

Initial estimates of FEM indicated the presence of positive autocorrelation and inter-firm residual dependence. To address this issue, we developed a model by including year effects and using standard errors clustered by firm. After incorporating year effects, the Pesaran CD test no longer indicated inter-firm dependence, so this specification was adopted as the final estimation model.

Table 9. Results of the Fixed Effects Model with Year Effects and Clustered Standard Errors
Standard errors clustered by unit

	Coefficient	Std. Error	t-ratio	p-value	
const	3.54965	1.61414	2.199	0.0392	**
ROA	-2.06701	2.74875	-0.7520	0.4604	
DER	-0.660112	0.383618	-1.721	0.1000	*
HHI	-1.11809	2.52252	-0.4432	0.6621	
dt_2	-0.365106	0.164700	-2.217	0.0378	**
dt_3	-0.639326	0.247801	-2.580	0.0175	**
dt_4	-0.743894	0.388297	-1.916	0.0691	*
Mean of dependent variable	1.642027	S.D. of dependent variable	1.577369		
Sum of squared residuals	17.32588	Standard error of regression	0.537368		
LSDV R-squared	0.919960	Within R-squared	0.332456		
Log-likelihood	-53.36063	Akaike criterion	162.7213		
Schwarz criterion	232.0867	Hannan-Quinn	190.6669		
rho	0.162828	Durbin-Watson	0.714477		
Joint test on named regressors, F(3,21)	2.19994	Robust test for differing group intercepts, Welch F(21,23.7)	10.9838		
p-value of the joint test	0.118114	p-value of the robust intercept test	1.03374e-07		
Wald joint test on time dummies, $\chi^2(3)$	11.054	Pesaran CD test, z	0.769739		
p-value of the time-effects test	0.0114375	p-value of the Pesaran CD test	0.441455		

Source: Data processed using Gretl (2026)

Table 9 show that ROA and HHI do not have a significant effect on Tobin's Q. DER has a negative coefficient of -0.6601 and is significant only at the 10% level, indicating that an increase in leverage tends to reduce firm value, although the statistical evidence is marginal. The second and third time dummies have a significant negative effect at the 5% level, while the fourth time dummy is significant at the 10% level. Simultaneously, ROA, DER, and HHI do not have a significant effect on Tobin's Q, as indicated by an F-value $(3, 21) = 2.1999$ with a p-value of 0.1181. A robustness test for differences in intercepts yielded a Welch F $(21, 23.7) = 10.9838$ with a p-value <0.001 , confirming the presence of heterogeneity in firm-specific characteristics and supporting the use of a *fixed-effects model*. The time dummy variable was also significant in the combined analysis, with $\chi^2(3) = 11.054$ and a p-value of 0.0114. Thus, it can be concluded that changes in conditions from year to year also influence firm value. The *within* R^2 value of 0.3325 indicates that the model explains 33.25% of the variation in Tobin's Q within firms during the observation period. Meanwhile, the Pesaran CD test yielded a p-value of 0.4415, indicating no residual dependence across firms.

Finally, we tested a third model that included liquidity variables in the regression model. Table 10 presents the results of the panel model selection for the Tobin's Q equation, incorporating liquidity variables.

Table 10. Results of Panel Model Selection with Tobin's Q as the Dependent Variable

Test	Test Statistic	p-value	Decision
Chow Test	F (21, 62) = 11.7955	<0.001	FEM
Breusch-Pagan LM Test	$\chi^2(1) = 39.3012$	<0.001	REM
Hausman Test	$\chi^2(4) = 26.0187$	<0.001	FEM
Selected model	—	—	Fixed Effects Model

Source: Data processed using Gretl (2026)

Table 10 shows that FEM was selected as the estimation model for the Tobin's Q equation, which includes the Current Ratio as a mediating variable. Next, a multicollinearity test was conducted, the results of which are presented in Table 11 below.

Table 11. Results of the Multicollinearity Test Using Variance Inflation Factor (VIF)

Variable	VIF	Conclusion
ROA	1.172	No multicollinearity
DER	1.650	No multicollinearity
HHI	1.252	No multicollinearity
Current Ratio	1.568	No multicollinearity

Belsley-Kuh-Welsch collinearity diagnostics:

Table 12. Belsley-Kuh-Welsch Collinearity Diagnostics Based on Variance Proportions

lambda	cond	const	ROA	DER	HHI	Current Ratio
3.910	1.000	0.002	0.019	0.011	0.003	0.008
0.599	2.556	0.000	0.005	0.285	0.000	0.117
0.376	3.225	0.008	0.905	0.009	0.004	0.029
0.093	6.480	0.052	0.000	0.692	0.133	0.693
0.022	13,408	0.937	0.072	0.003	0.860	0.152

Source: Data processed using Gretl (2026)

The test results show that all VIF values fall within the range of 1.172–1.650 and are well below the threshold of 10. Thus, there is no multicollinearity issue among ROA, DER, HHI, and the *Current Ratio*. The Belsley-Kuh-Welsch diagnostic also does not indicate strong linear dependence, as no *condition index* exceeds 30. Although the highest *condition index* value of

13.408 suggests a moderate linear relationship, the high proportion of variance is associated only with the constant and HHI, so it is not considered to interfere with model estimation. Overall, all variables can be used simultaneously in the regression equation.

The final estimation model we used is a *Fixed Effects Model* with a year effect and *clustered standard errors by unit*. This specification was chosen because the conventional FEM still showed heteroscedasticity and indications of residual autocorrelation within firms, meaning that *the standard errors* and p-values might be less reliable. The year effect was also retained because it was simultaneously significant and capable of controlling for changes in common conditions affecting all firms during the observation period. Thus, this model was deemed more appropriate as a basis for hypothesis testing. Table 13 below presents the results of the FEM regression with the year effect and *standard errors clustered by unit*.

Table 13. Estimation Results of the Two-Way Fixed Effects Model with Clustered Standard Errors by Company

	<i>Coefficient</i>	<i>Std. Error</i>	<i>t-ratio</i>	<i>p-value</i>	
const	3.78914	1.66166	2.280	0.0331	**
ROA	-1.99271	2.67186	-0.7458	0.4640	
DER	-0.676016	0.386920	-1.747	0.0952	*
HHI	-1.26301	2.48735	-0.5078	0.6169	
Current Ratio	-0.0780631	0.0956279	-0.8163	0.4235	
dt_2	-0.368880	0.164831	-2.238	0.0362	**
dt_3	-0.636231	0.246681	-2.579	0.0175	**
dt_4	-0.757065	0.393042	-1.926	0.0677	*
Mean of the dependent variable	1.642027	S.D. of dependent variable		1.577369	
Sum of squared residuals	17.22741	Standard error of regression		0.540361	
LSDV R-squared	0.920414	Within R-squared		0.336250	
Log-likelihood	-53.10985	Akaike criterion		164.2197	
Schwarz criterion	236.0625	Hannan-Quinn		193.1634	
rho	0.159588	Durbin-Watson		0.722430	
Joint test on named regressors, $F(4, 21)$	1.7462	Robust test for differing group intercepts, Welch $F(21, 23.8)$		11.0514	
p-value of the joint test	0.177587	p-value of the robust intercept test		9.27299e-08	
Wald joint test on time dummies, $\chi^2(3)$	10.5687	Pesaran CD test, z		1.39128	
p-value of the time-effects test	0.014302	p-value of the Pesaran CD test		0.164142	

Source: Data processed using Gretl (2026)

Table 13 indicate that ROA, HHI, and CR do not have a significant effect on Tobin's Q. DER has a negative coefficient of -0.676016 with a p-value of 0.0952, meaning that its effect is only marginally significant at the 10% significance level. These findings indicate that an increase in DER tends to be followed by a decline in CV, whereas profitability, OS, and liquidity have not yet shown a statistically convincing direct effect.

Simultaneously, ROA, DER, HHI, and *the Current Ratio* do not have a significant effect on Tobin's Q, as indicated by the F-test probability value of 0.1776. However, the year dummy variable proved to be significant at a probability of 0.0143, indicating that changes in conditions each year also influence firm value. The *within* R^2 value of 0.3363 indicates that the model explains 33.63% of the variation in Tobin's Q within the firm over the observation

period. The significant test for differences in intercepts supports the use of FEM, while the Pesaran CD test with a probability of 0.164 indicates that there is no inter-firm dependence of residuals. Thus, the model is adequate for use as a basis for hypothesis testing.

Table 14. Results of the Sobel Test

Mediation Path	α	S_α	Indirect Effect ($a \times b$)	Sobel (Z)	p-value	Conclusion
ROA $\rightarrow$ Current Ratio $\rightarrow$ Tobin's Q	0.951796	2.34629	-0.074300	-0.36322329	0.71643809	No mediation
DER $\rightarrow$ Current Ratio $\rightarrow$ Tobin's Q	-0.203735	0.152976	0.015904	0.69559241	0.48668412	No mediation
HHI $\rightarrow$ Current Ratio $\rightarrow$ Tobin's Q	-1.85645	1.11610	0.144920	0.73239206	0.46392930	No mediation

Note: $b = -0.0780631$ and $S_b = 0.0956279$

Source: Data processed based on the estimation results from Gretl (2026)

The Sobel test indicates that the indirect effects of ROA, DER, and HHI on Tobin's Q via the *Current Ratio* are not significant. The probability values for each path are 0.71643809, 0.48668412, and 0.46392930, all of which are above the 5% significance level. These results indicate that liquidity does not yet serve as a linking mechanism between profitability, CS, and OS and CV.

Discussion

Based on the estimation results using FEM with year effects and *clustered standard errors*, none of the hypotheses received support at the 5% significance level. The effect of DER on Tobin's Q was only marginally significant at the 10% level. Meanwhile, all indirect effects via the *Current Ratio* were insignificant based on the Sobel test.

The Effect of Profitability on Firm Value

ROA yielded a negative coefficient of -1.9927 with a probability of 0.460, so H1 is not supported. These findings indicate that changes in profitability during the observation period have not served as a strong enough signal to alter market valuation. For companies included in the LQ-45 index, earnings information is likely already reflected in stock prices. Additionally, investors may consider the sustainability of earnings, cash flow, risk, and growth prospects rather than focusing solely on the magnitude of ROA in a single period.

These findings align with a study in Indonesia using 15 banks from 2014 to 2018, which found no significant effect of profitability on CV (Reschiwati et al., 2020). Conversely, these findings contradict the results of studies in Indonesia and Jordan, which found that profitability increases CV (Alathamneh et al., 2025; JIHADI et al., 2021). These differing research results underscore that the market's response to profits is influenced by sector, time period, firm risk, and the ability of profits to generate sustainable growth.

The Effect of Profitability on Liquidity

ROA has a positive coefficient of 0.9518, but its probability is 0.6891. Therefore, it can be concluded that H2 is not supported. High profits do not always increase the *Current Ratio* because profits can be allocated to investments, dividend payments, repayment of long-term debt, or the purchase of fixed assets. Consequently, profit growth is not necessarily followed by an increase in CR relative to short-term liabilities.

Using *cash holdings* as a proxy for corporate liquidity, these results align with Akhtar (2025), who found that profitability does not always determine cash holdings across the entire sample, and with the findings of Das and Goel (2021), who found that operating profit does not have a significant effect on a company's cash holdings. Conversely, this study contradicts

the findings of Bagh et al. (2021), who found a positive effect of profitability on *cash holdings*. These contrasting findings suggest that the relationship between earnings and liquidity is influenced by working capital management policies and the allocation priorities of internal funds.

The Effect of Ownership Structure on Firm Value

The HHI yielded a coefficient of -1.2630 with a probability of 0.61692. This result suggests that H3 is not supported. High ownership concentration has not been proven to increase firm value. Controlling shareholders can indeed strengthen oversight, but at the same time, they may pose risks of self-dealing and neglecting the interests of minority shareholders. These two effects may cancel each other out, rendering the linear relationship between the HHI and Tobin's Q insignificant.

Faisal et al.(2020) found a nonmonotonic pattern between ownership concentration and firm value. Meanwhile, a study in Brazil on stock control, OS, and CV found that a single linear measure does not necessarily capture the full mechanism of ownership (Brandão & Crisóstomo, 2024). In contrast, the findings of Bunyaminu et al.(2025) indicate that OS has a positive effect on a firm's market value. These differing research results suggest that both the identity of the owners and the degree of concentration are equally important in explaining CV.

The Effect of Ownership Structure on Liquidity

The HHI has a coefficient of -1.8565 with a p-value of 0.1111. Therefore, it can be concluded that H4 is not supported. Ownership concentration appears to be more closely related to strategic oversight and management control than to short-term operational decisions that shape CR. Policies regarding inventory, accounts receivable, cash, and trade payables may also be determined more by industry characteristics and the operating cycle.

These findings are consistent with those of Elyasiani and Moghavari (2022) , who did not identify certain governance proxies as the primary determinants of *cash holdings*. In contrast, the findings of Basiony et al. (2025) indicate that family and foreign ownership are significantly associated with cash holdings, whereas Afifa et al. (2021) found that ownership concentration increases *cash holdings*. These differing results may stem from variations in owner identity and the use of *cash holdings* as a proxy for liquidity, whereas this study employs the current ratio.

The Effect of Capital Structure on Firm Value

DER has a coefficient of -0.6760 with a probability of 0.0952. H5 is not supported at the 5% level, but shows a marginal negative effect at the 10% level. This suggests that an increase in debt tends to be perceived as additional risk, an interest burden, and the potential for financial strain. However, the strength of this effect is not yet stable enough to be declared significant at the study's primary significance level.

These findings are consistent with Valencia (2025), who found a negative but insignificant link between DER and CV, as well as Ahmed et al. (2023), who showed that the effect of CS on Tobin's Q is insignificant under certain specifications. Conversely, the findings of Kanoujiya et al.(2023), indicate a negative impact of leverage on firm valuation. These inconsistent findings are consistent with trade-off theory, which suggests that the effects of debt are shaped by the balance between tax advantages and the potential costs associated with financial distress.

The Effect of Capital Structure on Liquidity

The DER yielded a coefficient of -0.2037 with a p-value of 0.1972, meaning that H6 is not supported. The negative sign suggests a tendency that an increase in debt may add to

payment obligations and constrain short-term flexibility. However, companies may also use funds to finance cash, inventory, or accounts receivable, so the ultimate effect on the *Current Ratio* becomes inconsistent.

These findings can be explained by a study in Vietnam that found a nonlinear relationship between leverage and *cash holdings*; leverage reduces cash at low levels, but the direction reverses at high levels (Tran Minh et al., 2022). Das and Goel (2021) also show that the relationship between leverage and cash depends on whether a company has a cash surplus or deficit. In contrast, Akhtar's study (2025) found a significant negative relationship. Thus, the lack of significance of the DER in this study may reflect differences in each company's debt position and working capital needs.

The Effect of Liquidity on Firm Value

CR has a coefficient of -0.0781 with a probability of 0.4235, which suggests that H7 is not supported. These results indicate that the ability to meet short-term obligations does not yet serve as a signal that directly increases Tobin's Q. High liquidity can be viewed positively because it reduces the risk of default, but it may also indicate the presence of cash, accounts receivable, or inventory that has not been utilized productively. These two opposing assessments can lead to a neutral market response.

These findings support Valencia (2025), who found no significant effect of liquidity on CV. Different results were obtained by Jihadi et al. (2021), who demonstrated a significant effect of liquidity on CV. Chia et al. (2020) also found that liquidity affects CV only after exceeding a certain threshold, indicating a nonlinear relationship between the two. This suggests that a high current ratio does not automatically increase value without considering the optimal level and efficiency of current assets.

The Mediating Role of Liquidity in the Effect of Profitability on Firm Value

The Sobel test yielded a statistic of -0.3632 with a probability of 0.7164. Therefore, it can be concluded that H8 is not supported. The failure of mediation occurred because ROA did not have a significant effect on CR, and CR also did not have a significant effect on Tobin's Q. Profitability has not yet been translated into changes in liquidity that are subsequently appreciated by the market. Companies may use profits for investment or payments to shareholders, rather than to increase current assets.

Research results consistent with the initial path were found by Akhtar (2025) and Das & Goel (2021), which show that profitability or operating income does not always increase cash holdings. Conversely, at the component level, Bagh et al. (2021) found that profitability increases *cash holdings*, while Theissen et al. (2023) demonstrated that cash holdings are relevant to CV. The latter two studies did not test the mediation of the *Current Ratio* identically, but they indicate that the profitability-liquidity-value channel can operate in different contexts and with different proxies.

The Mediating Role of Liquidity in the Effect of Ownership Structure on Firm Value

The Sobel test yielded a statistic of 0.7324 with a probability of 0.4639, suggesting that H9 is not supported. Ownership concentration was not found to increase liquidity, nor was liquidity able to mediate its effect on firm value. The results of this study indicate that ownership mechanisms may operate through management oversight, information quality, investment policies, or stock liquidity, rather than through a firm's ability to meet short-term obligations.

These findings are consistent with Elyasiani and Movaghari (2022), who did not find that any governance mechanisms were the primary determinants of cash. Conversely, Afifa et al. found that *cash holdings* mediate the relationship between certain forms of ownership

structure and firm value. Tahir et al.(2020) also demonstrated the mediating role of liquidity policy in the relationship between corporate governance and firm performance. These differences underscore that the type of ownership and liquidity proxy determine whether or not a mediating mechanism is established.

The Mediating Role of Liquidity in the Relationship Between Capital Structure and Firm Value

The Sobel test yielded a statistic of 0.6956 with a probability of 0.4867. Therefore, it can be concluded that H10 is not supported. DER does have a negative relationship with CR, but its effect is not significant. At the same time, *the current ratio* is unable to explain changes in Tobin's Q. Thus, the negative relationship between debt and CV is more likely related to financial risk and the cost of capital than mediated through short-term liquidity.

These findings are supported at the path component level by Valencia (2025) , who found a non-significant relationship between DER and liquidity on CV. Conversely, Tran Minh et al. (2022) show that leverage can alter cash levels in a nonlinear manner. These comparative studies used *cash holdings* or financial flexibility, so they are not entirely identical to the mediation of *the Current Ratio* in this study.

Overall, the research results indicate that the firm value of LQ-45 companies for the 2022–2025 period cannot yet be directly explained by profitability, ownership concentration, capital structure, and liquidity. Liquidity also has not proven to be a channel linking these three internal characteristics to Tobin's Q. This suggests that investors are more likely to respond to growth prospects, earnings sustainability, market risk, investment efficiency, and macroeconomic factors than to changes in short-term financial ratios in isolation. The significance of the year effect further reinforces the hypothesis that the formation of firm value during the study period was largely influenced by market conditions experienced simultaneously by all issuers.

CONCLUSION

This study examines the effects of profitability, OS, and CS on CV, with liquidity as a mediating variable, across 22 non-financial companies consistently included in the LQ-45 index from 2022 to 2025. The results indicate that profitability (ROA), CS (DER), and OS (HHI) do not have a significant effect on liquidity, as proxied by CR. In the CV model, ROA, HHI, and CR also do not have a significant effect on Tobin's Q, while DER shows a negative relationship with marginal significance at the 10% level. A subsequent Sobel test indicates that liquidity does not mediate the effects of ROA, DER, or HHI on CV. These findings suggest that liquidity does not yet function as a mechanism linking profitability, financing structure, and OS to increases in CV. Conversely, the significance of the year effect indicates that changes in conditions during the observation period play a stronger role in explaining variations in CV. Theoretically, these results provide empirical limitations to *signaling theory* and support *agency theory* and *trade-off theory*, which hold that the effectiveness of financial signals, OS, and debt utilization depends heavily on firm conditions and investor perceptions.

Practically, companies need to emphasize earnings quality, asset utilization efficiency, cash flow management, a proportionate debt structure, and transparent corporate governance, as improvements in profitability or liquidity alone do not necessarily enhance market valuation. Investors also need to consider other factors such as earnings quality, financing risk, growth prospects, investment opportunities, corporate governance, and economic conditions when evaluating companies. This study is still limited to a four-year period, 22 non-financial LQ-45 companies, the use of *the Current Ratio* as the sole liquidity proxy, the HHI as a measure of OS, and the Sobel test in the mediation analysis. Therefore, future research should expand the time period and sample size, use various liquidity proxies and ownership characteristics, and

apply *bootstrap confidence intervals* to test indirect effects. Developing models with nonlinear relationships and adding variables such as firm size, growth, cash flow, business risk, investment opportunities, dividend policy, and macroeconomic conditions could also provide a more comprehensive understanding of the factors that determine firm value.

REFERENCES

- Afifa, M. A., Saleh, I., & Haniah, F. (2021). Direct and Mediated Associations Among Ownership Structure, Cash Holdings, and Firm Value: The Case of Jordanian Insurance Firms. *Vision: The Journal of Business Perspective*, 25 (4), 471–482. <https://doi.org/10.1177/0972262920983989>
- Afinindy, I., Salim, U., & Ratnawati, K. (2021). THE EFFECT OF PROFITABILITY, FIRM SIZE, LIQUIDITY, AND SALES GROWTH ON FIRM VALUE: A MEDIATED ANALYSIS OF CAPITAL STRUCTURE. *International Journal of Business, Economics and Law*, 24(4), 15–22.
- Ahmad, Y. F., Ekowati, V. M., & Meldona. (2025). The Impact of Liquidity and Leverage on Islamic Bank Value: A Test of a Multigroup Moderated Mediation Effect. *Journal of Islamic Economics and Finance Studies*, 6 (1), 53–73. <https://doi.org/10.47700/jiefes.v6i1.10869>
- Ahmed, A. M., Sharif, N. A., Ali, M. N., & Hågen, I. (2023). Effect of Firm Size on the Association between Capital Structure and Profitability. *Sustainability*, 15 (14), 11196. <https://doi.org/10.3390/su151411196>
- Akhtar, T. (2025). Cash holdings in the MENA region: Evidence from the trade-off model, pecking order theory, and agency theory. *Future Business Journal*, 11 (1), 33. <https://doi.org/10.1186/s43093-025-00454-5>
- Alathamneh, M., Obeidat, M. I., Almomani, M. A., Almomani, T. M., & Darkal, N. (Mohammed A. (2025). The Mediating Role of Profitability in the Impact Relationship of Asset Tangibility on Firm Market Value. *Journal of Risk and Financial Management*, 18 (2), 104. <https://doi.org/10.3390/jrfm18020104>
- BAGH, T., KHAN, M. A., MEYER, N., SADIQ, R., & KOT, S. (2021). Determinants of Corporate Cash Holdings Among Asia's Emerging and Frontier Markets: Empirical Evidence from the Non-Financial Sector. *The Journal of Asian Finance, Economics and Business*, 8 (6), 661–670. <https://doi.org/10.13106/JAFEB.2021.VOL8.NO6.0661>
- Basiony, M. M., Eldeen, E. M. S., & Tammam, A. A. (2025). The impact of ownership structure on cash holdings in Egyptian-listed companies. *Future Business Journal*, 11 (1), 43. <https://doi.org/10.1186/s43093-025-00460-7>
- Brandão, I. D. F., & Crisóstomo, V. L. (2024). Shareholding control, ownership concentration, and the value of the Brazilian firm. *Borsa Istanbul Review*, 24 (5), 984–995. <https://doi.org/10.1016/j.bir.2024.05.008>
- Bunyaminu, A., Yakubu, I. N., & Oumarou, S. (2025). The impact of board attributes and ownership concentration on firm market value: Empirical evidence from an emerging market. *Cogent Business & Management*, 12 (1), 2437147. <https://doi.org/10.1080/23311975.2024.2437147>
- Chia, Y.-E., Lim, K.-P., & Goh, K.-L. (2020). Liquidity and firm value in an emerging market: Nonlinearity, political connections, and corporate ownership. *The North American Journal of Economics and Finance*, 52 , 101169. <https://doi.org/10.1016/j.najef.2020.101169>
- Connelly, B. L., Certo, S. T., Ireland, R. D., & Reutzel, C. R. (2011). Signaling Theory: A Review and Assessment. *Journal of Management*, 37 (1), 39–67. <https://doi.org/10.1177/0149206310388419>

- Connelly, B. L., Certo, S. T., Reutzel, C. R., DesJardine, M. R., & Zhou, Y. S. (2025). Signaling Theory: State of the Theory and Its Future. *Journal of Management*, 51 (1), 24–61. <https://doi.org/10.1177/01492063241268459>
- Das, S., & Goel, U. (2021). Determinants of Excess and Deficit Cash Holdings of Firms: Evidence from Emerging Markets. *Global Business Review*, 22 (5), 1202–1215. <https://doi.org/10.1177/0972150918824950>
- Elisa Dwi Handini & Dwi Ermayanti Susilo. (2025). Analyzing Profitability, Firm Size, and Capital Structure's Impact on Firm Value. *Journal of Accounting Science*, 9 (1), 114–131. <https://doi.org/10.21070/jas.v9i1.1953>
- Elyasiani, E., & Movaghari, H. (2022). Determinants of corporate cash holdings: An application of a robust variable selection technique. *International Review of Economics & Finance*, 80, 967–993. <https://doi.org/10.1016/j.iref.2022.03.003>
- Faisal, F., Majid, M. S. A., & Sakir, A. (2020). Agency conflicts, firm value, and monitoring mechanisms: Empirical evidence from Indonesia. *Cogent Economics & Finance*, 8 (1), 1822018. <https://doi.org/10.1080/23322039.2020.1822018>
- Inrawan, A., & Lie, D. (2024). The Role of Profitability in Mediating Determinants of Firm Value. *JAS (Journal of Sharia Accounting)*, 8 (2), 389–413. <https://doi.org/10.46367/jas.v8i2.2180>
- Jensen, M. C., & Meckling, W. H. (1976). Theory of the firm: Managerial behavior, agency costs, and ownership structure. *Journal of Financial Economics*, 3 (4), 305–360. [https://doi.org/10.1016/0304-405X\(76\)90026-X](https://doi.org/10.1016/0304-405X(76)90026-X)
- JIHADI, M., VILANTIKA, E., HASHEMI, S. M., ARIFIN, Z., BACHTIAR, Y., & SHOLICHAH, F. (2021). The Effect of Liquidity, Leverage, and Profitability on Firm Value: Empirical Evidence from Indonesia. *The Journal of Asian Finance, Economics and Business*, 8 (3), 423–431. <https://doi.org/10.13106/JAFEB.2021.VOL8.NO3.0423>
- Kanoujiya, J., Jain, P., Banerjee, S., Kalra, R., Rastogi, S., & Bhimavarapu, V. M. (2023). Impact of Leverage on the Valuation of Non-Financial Firms in India under the Moderating Effect of Profitability: Evidence from Scenarios Using Quantile Regression. *Journal of Risk and Financial Management*, 16 (8), 366. <https://doi.org/10.3390/jrfm16080366>
- Kraus, A., & Litzenberger, R. H. (1973). A STATE-PREFERENCE MODEL OF OPTIMAL FINANCIAL LEVERAGE. *The Journal of Finance*, 28 (4), 911–922. <https://doi.org/10.1111/j.1540-6261.1973.tb01415.x>
- Mubyarto, N. (2020). The Influence of Profitability on Firm Value with Capital Structure as the Mediator. *Jurnal Economia*.
- Mukhtaro, H., Apriyanto, G., & Respati, H. (2024). *The Effect of Profitability and Liquidity on Firm Value with Capital Structure as an Intervening Variable*.
- Myers, S. C., & Majluf, N. S. (1984). *Corporate Financing and Investment Decisions When Firms Have Information That Investors Do Not Have*.
- Nurwulandari, A., Wibowo, Y., & Hasanudin. (2021). The Effect of Liquidity, Profitability, and Firm Size on Firm Value with Capital Structure as an Intervening Variable. *ATESTASI: Scientific Journal of Accounting*, 4 (2), 257–271. <https://doi.org/10.33096/atestasi.v4i2.835>
- Paramitha, P. D. P. (2020). The Role of Profitability in Mediating the Effect of Capital Structure and Liquidity on Firm Value in the Food and Beverage Sub-Sector on the Indonesian Stock Exchange. *JAGADITHA Journal of Economics & Business*, 7 (2), 80–91. <https://doi.org/10.22225/jj.7.2.2154.80-91>
- Puspita, E. A., & Siswanti, I. (2021). The Effect of Capital Structure and Liquidity on Firm Value with Profitability as an Intervening Variable (A Case Study of Property and Real

- Estate Companies Listed on the Indonesia Stock Exchange, 2014–2019). *Management Research Studies Journal*, 2 (1), 11–27. <https://doi.org/10.56174/mrsj.v2i1.366>
- Puspitaningtyas, Z. (2019). Assessment of financial performance and its effect on the dividend policy of banking companies listed on the Indonesia Stock Exchange. *Banks and Bank Systems*, 14 (2), 24–39. Scopus. [https://doi.org/10.21511/bbs.14\(2\).2019.03](https://doi.org/10.21511/bbs.14(2).2019.03)
- Putri, I. G. A. P. T., & Rahyuda, H. (2020). Effect of capital structure and sales growth on firm value with profitability as a mediator. *International Research Journal of Management, IT and Social Sciences*. <https://doi.org/10.21744/irjmis.v7n1.833>
- Putro, D. C., & Risman, A. (2021). THE EFFECT OF CAPITAL STRUCTURE AND LIQUIDITY ON FIRM VALUE MEDIATED BY PROFITABILITY. *The EUrASEANs: Journal on Global Socio-Economic Dynamics*, (2(27)), 26–34. <https://doi.org/10.35678/2539-5645.2> (27). 2021. 26–34
- Reschiwati, R., Syahdina, A., & Handayani, S. (2020). *The Effect of Liquidity, Profitability, and Firm Size on Firm Value*. 25.
- Rodríguez Valencia, L. (2025). Financial Performance and Corporate Governance on Firm Value: Evidence from Spain. *International Journal of Financial Studies*, 13 (3), 123. <https://doi.org/10.3390/ijfs13030123>
- Salih, K. H., Sangaw, S. S., & Ahmad, K. K. (2024). The Impact of Cash Flow, Solvency, and Working Capital on Accounting Profitability with Capital Structure as a Mediator (Qatar Stock Exchange Case Study, 2018–2022). *Journal of Accounting and Financial Studies*, 19(68), 318–331.
- Saputra, I. G. A. A., & Kusuma, P. S. A. J. (2025). The Effect of Liquidity, Profitability, and Capital Structure on Firm Value with Firm Size as a Moderating Variable. *American Journal of Economic and Management Business*, 4(1), 24–42.
- Sari, I. A. G. D. M., & Sedana, I. B. P. (2020). Profitability and Liquidity on Firm Value with Capital Structure as an Intervening Variable. *International Research Journal of Management, IT, and Social Sciences*. <https://doi.org/10.21744/irjmis.v7n1.828>
- Singh, S., Tabassum, N., Darwish, T. K., & Batsakis, G. (2018). Corporate Governance and Tobin's *Q* as a Measure of Organizational Performance. *British Journal of Management*, 29 (1), 171–190. <https://doi.org/10.1111/1467-8551.12237>
- Sobel, M. E. (1982). Asymptotic Confidence Intervals for Indirect Effects in Structural Equation Models. *Sociological Methodology*, 13 , 290. <https://doi.org/10.2307/270723>
- Spence, M. (1973). Job Market Signaling. *The Quarterly Journal of Economics*, 87 (3), 355. <https://doi.org/10.2307/1882010>
- Steinberg, P. J., Hennig, J. C., Oehmichen, J., & Heigermoser, J. (2025). Common ownership and competitive dissimilarity: A global perspective on competition and institutional ownership. *Global Strategy Journal*, 15 (1), 94–129. <https://doi.org/10.1002/gsj.1519>
- Sugosha, M. J., & Artini, L. G. S. (2020). The role of profitability in mediating the relationship between company ownership structure and firm value in the pharmaceutical industry on the Indonesia Stock Exchange. *International Research Journal of Management, IT and Social Sciences*. <https://doi.org/10.21744/irjmis.v7n1.827>
- TAHIR, S. H., SADIQUE, M. A. B., SYED, N., REHMAN, F., & ULLAH, M. R. (2020). The Mediating Role of Liquidity Policy in the Corporate Governance–Performance Link: Evidence from Pakistan. *The Journal of Asian Finance, Economics and Business*, 7 (8), 15–23. <https://doi.org/10.13106/JAFEB.2020.VOL7.NO8.015>
- Theissen, M. H., Jung, C., Theissen, H. H., & Graf-Vlachy, L. (2023). Cash holdings and firm value: Evidence for increasing marginal returns. *Journal of Management Scientific Reports*, 1 (3–4), 260–300. <https://doi.org/10.1177/27550311231187318>
- Tinus, A., Mahmudi, B., & Nurhayati, E. (2024). *The Role of Capital Structure in Mediating the Effect of Liquidity on Profitability*. 2.

- Tran Minh, H. P., Nguyen Thi, K., & Thi Be, L. P. (2022). The non-linear impact of financial leverage on cash holdings: Empirical evidence from Vietnam. *Cogent Business & Management*, 9 (1), 2114304. <https://doi.org/10.1080/23311975.2022.2114304>
- Wagdi, O., Farouk, M., & Abdou, S. A. H. A. (2023). The mediating role of common stock liquidity between ownership structure characteristics and corporate value: Evidence from emerging markets. *International Journal of Applied Economics, Finance and Accounting*, 16 (2), 274–287. <https://doi.org/10.33094/ijaefa.v16i2.980>
- Yasar, B., Martin, T., & Kiessling, T. (2020). An empirical test of signaling theory. *Management Research Review*, 43 (11), 1309–1335. <https://doi.org/10.1108/MRR-08-2019-0338>
- Yusuf, M., & Dyarini, D. (2025). The Impact of Liquidity and Company Size on Capital Structure, Mediated by Profitability. *International Journal of Law Policy and Governance*, 4 (2), 150–165. <https://doi.org/10.54099/ijlpg.v4i2.1339>