



Optimizing The Value Of BEI Infrastructure Companies: The Role Of Capital Structure, Asset Effectiveness, And Liquidity

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ABSTRACT

This research investigates how capital structure (measured by DER), asset efficiency (measured by TATO), and liquidity (measured by CR) impact the corporate value of infrastructure firms listed on the Indonesia Stock Exchange (IDX) from 2020 to 2024. Adopting a quantitative methodology, secondary data were gathered from audited corporate annual reports. A purposive sampling technique selected 45 eligible companies out of 70, establishing 225 initial data points. Following the removal of extreme outliers using boxplot analysis, a final set of 156 observations was evaluated via multiple linear regression using SPSS 26. The simultaneous F-test reveals that all independent variables concurrently exert a significant effect on corporate value. Individually (t-test), both capital structure and liquidity show a significant negative relationship with firm value, whereas asset efficiency does not demonstrate any meaningful impact. These findings indicate that maintaining prudent financing strategies and optimizing working capital without over-leveraging are vital components for enhancing market valuation among investors in the infrastructure sector.

INTRODUCTION

The infrastructure sector acts as a key pillar supporting accelerated economic growth in Indonesia. Business entities operating in this sector play a vital role in facilitating logistics connectivity, energy supply, communication networks, and the provision of public utilities that underpin the dynamics of the national economy. On the Indonesia Stock Exchange (IDX), infrastructure issuers have shown rapid progress, as evidenced by the increasing number of public companies and consistent annual market capitalization. However, this expansion is accompanied by fundamental challenges related to strategies for optimizing firm value consistently amidst capital market fluctuations and uncertain macroeconomic conditions.

Firm value reflects the market's assessment of a business entity's capacity to create wealth for shareholders. This indicator is generally measured using the formula Price to Book Value (PBV) or Market to Book Ratio, which reflects market appreciation of the issuer's asset value and future growth prospects. For investors, firm value is a crucial parameter in determining investment direction, while for management, this figure reflects the effectiveness of operational and financial strategy execution. (Alghifari et al., 2022) emphasize that optimizing firm value is inextricably linked to strategic financial decisions made by management, particularly those related to capital structure, asset management, and liquidity management.

In various financial studies, capital structure (capital structure) is recognized as one of the main determinants of a company's value. This parameter describes the configuration of funding sources that combine debt and equity components. Determining the debt-to-equity ratio is not simply a matter of normative accounting, but rather a strategic policy that directly impacts the financial risk profile, weighted average cost of capital (Weighted Average Cost of Capital/WACC), to market price expectations in the eyes of investors. Based on trade-off theory, management seeks to balance the benefits of tax protection against interest costs (tax shield) with the consequence of bankruptcy costs (financial distress). Meanwhile, the view pecking order theory Prioritize the use of internal capital before deciding to seek external funding. (Adityaputra, 2024) found that in the context of emerging markets like Indonesia, capital structure decisions have more complex implications than in developed countries, given limited access to capital markets and greater information asymmetry.

In addition to the funding aspect, the level of asset management effectiveness is also a critical instrument in assessing an infrastructure issuer's capacity to generate profits from all of its operational resources. Asset effectiveness represented by the ratio Total Asset Turnover (TATO) measures the management efficiency index in utilizing total assets to boost sales. The characteristics of the infrastructure industry are capital-intensive (capital-intensive) with a massive portion of fixed assets, managing this ratio is crucial. Large investments in public assets, such as toll roads, telecommunications towers, pipelines, and power plant installations, require a long period of time to generate net cash flow. Therefore, managerial skill in optimally utilizing assets will directly impact returns for investors. (Andriyani, 2024) shows that asset turnover is positively correlated with profitability and firm value in the infrastructure sector, strengthening the argument that operational efficiency is a prerequisite for long-term value creation.

On the other hand, an issuer's liquidity position also plays a crucial role in determining corporate valuation. Liquidity reflects a corporation's readiness to meet its short-term financial obligations using current assets. From a market perspective, entities with healthy liquidity are considered more resilient because they have a financial cushion to withstand short-term volatility. However, there are aspects trade-off an unavoidable problem: excessively large liquidity reserves indicate inefficiencies in working capital management, as productive funds are instead languished in liquid asset instruments that generate low returns. (Amrulloh et al., 2022) found that the relationship between liquidity and firm value in Indonesia's infrastructure sector is nonlinear, with a specific optimal point that maximizes firm value.

A prominent empirical phenomenon in the IDX infrastructure sector is evident in the post-COVID-19 pandemic era. A number of issuers are experiencing severe liquidity pressures due to shrinking demand volume and global logistics constraints, while debt repayment obligations continue to accrue. At the same time, the national economic recovery agenda has triggered a massive acceleration of national strategic projects, forcing corporations to restructure their capital structures. (Nananjaya & Dana, 2023) notes that fluctuations leverage in Indonesian infrastructure companies during the 2020–2022 period had varying impacts on firm value, depending on the scale of the business and the company's ability to manage its financial risks.

Although much previous research has addressed this topic, research specifically integrating these three variables simultaneously within the infrastructure sector at the IDX is still

very limited. In-depth sectoral analysis is essential given the unique characteristics of the infrastructure industry, including high capital intensity, tight regulatory constraints, and long investment horizons. Research gaps (research gap) This underpins the urgency of this research. Therefore, this study is projected to comprehensively measure the contribution of capital structure, asset effectiveness, and liquidity to optimizing firm value in infrastructure issuers on the IDX. It is hoped that it will provide theoretical contributions and practical recommendations for academics, market players, and regulators.

LITERATURE REVIEW

Trade-Off Theory

Trade-off theory is one of the most fundamental theoretical frameworks in explaining the logic of corporate financing decision-making. The core of this theory is the idea that corporate management rationally balances the benefits obtained from using debt, namely in the form of reducing the tax burden through the mechanism interest tax shield, with the potential for losses in the form of an increased probability of financial difficulties (financial distress) when the debt ratio exceeds the optimal limit. This condition drives every business entity toward a debt ratio equilibrium point that maximizes the company's overall value. (Hastutik et al., 2022) emphasize that professional financial managers generally refer to trade-off theory as the primary reference in designing the optimal capital structure composition, as this theory provides a measurable analytical basis for considering the benefits and risks of debt-based financing. Similarly, (Wagisuwari & Sitorus, 2024) found that in Indonesian companies, the tax benefits of debt (debt tax shield) is proven to have a positive influence on determining capital structure, confirming the relevance of the perspective trade-off in the context of emerging markets. Theoretical implications of trade-off theory for BEI infrastructure companies, it is very significant, considering the large long-term funding needs of this sector, making optimization tax shield as a crucial strategic instrument in maximizing firm value.

Pecking Order Theory

Pecking order theory the pecking order model developed by (Myers & Majluf, 1984) offers a different perspective, stating that companies do not have an absolute target capital structure, but rather follow a funding hierarchy based on information asymmetry between management and external investors. The funding preference order begins with internal sources in the form of retained earnings, then shifts to debt instruments if internal sources are insufficient, and only issuing new equity is the last option because it is considered the most expensive and exposes the company's private information to the market. (Hidayanti et al., 2021) state that in sectors characterized by companies managed based on concentrated ownership, the tendency to follow a pecking order is strengthened due to management's reluctance to dilute control through new share issuances. In the context of infrastructure companies on the IDX, the pattern pecking order becomes very relevant considering the high need for fixed asset investment which is usually met first through the accumulation of retained earnings before management considers external funding schemes.

Capital Structure

The theoretical formulation of capital structure has evolved rapidly since its initial foundations were laid by Modigliani and Miller in the late 1950s. Over time, various complementary theories have emerged to explain corporate financing patterns in the real world, which is full of market imperfections. Trade-off theory believes in the existence of an optimal leverage target that balances tax incentives from debt interest with estimated bankruptcy costs. (Erdi, 2024) adds that in the context of companies in emerging markets like Indonesia, institutional dynamics and capital market limitations cause capital structure decisions to be

more influenced by the availability of funding sources and relationships with banks than by purely theoretical considerations.

Debt to Equity Ratio (DER) is the most commonly used indicator to represent capital structure, which measures the ratio of total debt to net equity. Adding debt within reasonable limits can increase corporate value through the leverage effect (leverage effect) which boosts the return on equity. However, excessive debt ratios actually increase the risk of bankruptcy, which is detrimental to shareholders. (Karoline, 2023) found that in infrastructure companies on the IDX, high leverage levels do not always negatively impact firm value, especially if the company is able to generate returns on assets that exceed its cost of debt.

Asset Effectiveness

Asset effectiveness refers to a corporation's ability to productively utilize all of its asset assets to generate sales revenue and added value for investors. This dimension is directly related to operational efficiency, which is the primary driver of long-term corporate value creation. In financial literature, this performance is typically measured using the ratio Total Asset Turnover (TATO), which measures the acceleration of the turnover of total assets into operating income within one accounting cycle. This ratio is highly relevant for the infrastructure sector due to the large amount of funds invested in fixed assets and the long payback period (Imansyah et al., 2025) empirically proves that infrastructure companies with asset turnover high companies tend to have better profitability and firm value, because their assets are successfully utilized productively to generate income.

Through the Du Pont analysis approach, the asset turnover rate acts as a crucial element in the composition of Return on Equity (ROE), which ultimately leads to market valuation. Efforts to boost asset effectiveness can be achieved through optimizing service utility capacity, liquidating unproductive assets, streamlining supply chain management, and innovating operational systems. (Mardan et al., 2023) emphasize that in the corporate context, capital-intensive, a one percentage point improvement in asset turnover can have a much greater impact on firm value than in firms with lower asset intensity, making asset effectiveness a critical strategic lever for infrastructure management.

Liquidity

Liquidity reflects a corporation's readiness to utilize its current assets to pay off all short-term liabilities in a timely manner. In financial management, liquidity governance represents working capital management (working capital management) which balances the fulfillment of daily operational needs with the efficient use of funds. Current Ratio (Current Ratio/CR) and Quick Ratio (Quick Ratio) is the most commonly used measurement instrument to map liquidity positions. For investors in the Indonesian stock market, the liquidity profile of infrastructure issuers is a crucial indicator because it directly relates to a corporation's resilience in the face of economic shocks and its commitment to debt repayment with creditors.

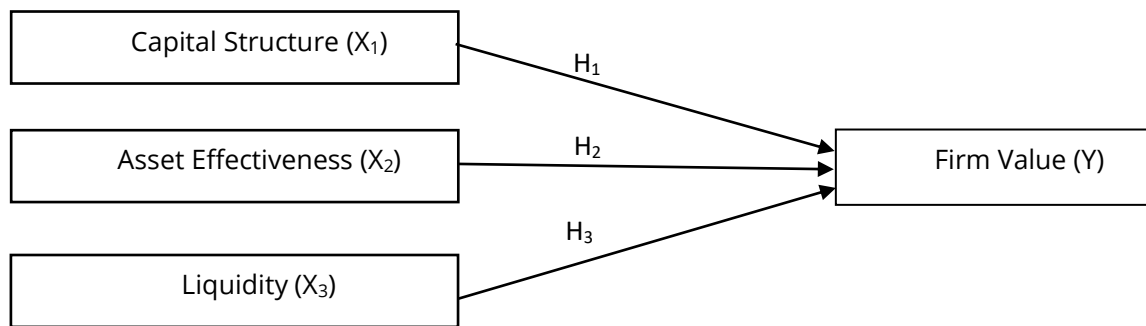
The relationship between liquidity levels and corporate value is complex and not always unidirectional. On the one hand, adequate liquidity provides a positive indication to the market that the issuer is in good financial condition and capable of mitigating external risks. However, on the other hand, excess liquidity indicates idle funds (idle cash) that could be allocated to more profitable investment instruments, potentially harming investors' interests in the long term. In Indonesia's infrastructure industry, both low and high liquidity positions have shown a negative relationship with corporate value, validating the existence of an optimal liquidity level (optimal liquidity level) which management must maintain to maximize firm value.

Firm Values

Corporate value is a central instrument in financial management, representing the total market appreciation of a business entity's wealth-creating capacity and performance track

record. In the modern corporate governance vision, the orientation toward maximizing corporate value has shifted the conventional paradigm of merely pursuing short-term accounting profits. This is based on the premise that corporate value integrates future business orientation, takes risk factors into account, and comprehensively accommodates stakeholder interests. (Efendi & Rivandi, 2024) explains that firm value is a function of the company's ability to generate free cash flow (free cash flow) discounted at an appropriate risk level, so that any managerial decision that affects cash flow and risk will automatically impact the company's value.

Figure 1. Conceptual Framework



The Influence of Capital Structure on Firm Value

In perspective trade-off theory, the use of debt that is managed proportionally is able to encourage an increase in firm value through benefits tax shield which minimizes the tax burden and increases cash flow for shareholders. (Erdi, 2024) empirically proves that in infrastructure companies listed on the IDX for the 2020–2023 period, the capital structure proxied by Debt to Equity Ratio (DER) has been shown to significantly influence firm value, making the composition of debt-based funding a crucial determinant that cannot be ignored in the context of capital-intensive industries. Similar findings are also supported by the results of a study (Octaviani et al., 2026) which found that in BEI infrastructure companies in the 2021–2024 period, capital structure influenced firm value, although the direction of the influence varied depending on profitability conditions and the level of capital structure. Leverage owned by each entity.

H1: Capital structure affects firm value.

The Influence of Asset Effectiveness on Firm Value

Total Asset Turnover (TATO) as a proxy for asset effectiveness illustrates how productively management utilizes its entire asset base to generate revenue, which is ultimately reflected in the market valuation of the company's shares. (Salainti, 2019) found that TATO has a significant positive effect on firm value, confirming that the higher the asset turnover rate, the greater the contribution of operational productivity to shareholder value creation. This finding is in line with the findings of (Susilowati & Meidiyustiani, 2023) which proves that TATO partially has a significant positive effect on firm value, because investors tend to give higher appreciation to companies that are able to optimize the use of their assets efficiently and generate competitive returns.

H2: Asset effectiveness has an impact on firm value.

The Effect of Liquidity on Firm Value

While adequate liquidity provides a positive signal to the market, empirical evidence suggests a different pattern, particularly in infrastructure companies. Research (Jayanti, 2018) found that liquidity, as proxied by the Current Ratio, had no impact on firm value. This indicates that investors in the infrastructure sector prioritize long-term performance and the cash flow generation capacity of substantial fixed assets over volatile short-term cash positions. This aligns

with findings (Ambarwati & Vitaningrum, 2021), which demonstrate that Current Ratio does not affect the company's value, then current ratio is not a determinant of firm value. This strengthens the argument that in industries with these characteristics capital-intensive, investor decisions are not solely driven by short-term liquidity conditions but by long-term asset growth and return prospects.

H3: Liquidity does not affect firm value.

METHODS

This study applies a quantitative method with a causal associative design to test and analyze the influence of independent variables on dependent variables in a measurable manner. Research data is extracted from annual financial reports (annual report) audited infrastructure sector issuers on the IDX with an observation period from 2020 to 2024, so that a representative five-year panel data structure is obtained to capture financial performance across the dynamics of the economic cycle (Sidiq, 2022).

The research population includes all infrastructure issuers referring to standards. IDX Industry Classification (IDX-IC) on the IDX, which includes the sub-sectors of infrastructure construction, transportation, utilities, telecommunications, and energy. The sample determination used the technique purposive sampling with the following criteria:

1. The issuer was consistently listed and actively traded on the IDX throughout the 2020–2024 period.
2. Issuers publish complete audited annual financial reports on the official BEI or corporate website.
3. The issuer provides complete data for all operational research variables.
4. The issuer is not under suspension sanctions or delisting process during the research period.

Through these criteria, 45 issuers passed the selection, resulting in 225 initial observations for five years of observation. After testing outlier via method boxplot, 69 extreme data points were eliminated from the model, leaving 156 final observations ready for analysis. The data modeling technique relies on multiple linear regression analysis using software SPSS version 26. The significance limit set in this hypothesis test is $\alpha = 5\%$, with two-way testing.

Table 1. Operational Definitions

No	Variables	Measuring instrument	Source
1	Capital Structure	$DER = \frac{\text{Total Debt}}{\text{Total Equity}}$	(Adityaputra, 2024)
2	Asset Effectiveness	$TATO = \frac{\text{Sale}}{\text{Total Active}}$	(Kasmir, 2023)
3	Liquidity	$CR = \frac{\text{Current assets}}{\text{Current Liabilities}}$	(Akhfina Efendi, 2024)
4	Firm Values	$PBV = \frac{\text{Stock Price}}{\text{Book Value of Shares}}$	(Amrulloh et al., 2022)

RESULTS

Descriptive Statistics

Table 2 Descriptive Statistics

Variables	N	Min.	Max.	Avg	Std. Dev
X1 (DER)	156	0.0883	3.0888	1.091991	0.8147833
X2 (TATO)	156	0.0004	1.0366	0.402116	0.2716303
X3 (CR)	156	0.1390	10.6502	1.763428	1.9175549
Y (PBV)	156	0.1366	8.4429	1.538108	1.6082655
Valid N (listwise)	156				

Source: Output SPSS version 26

Based on the data summary from 156 observation samples, the DER variable (X_1) has an average value of 1.0920, which indicates that the sample issuers generally have a larger portion of debt funding than equity. The TATO variable (X_2) recorded a relatively low average of 0.4021, reflecting the nature of the infrastructure industry which has a large asset base but takes a long time to convert it into revenue. The CR variable (X_3) shows an average value of 1.7634 with a high standard deviation (1.9176), indicating a wide gap in liquidity positions between companies. Finally, the average PBV (Y) is at 1.5381, indicating that the market appreciation is generally above the book value of its equity.

Classical Assumption Test

Normality Test

Table 2 Test Kolmogorov-Smirnov

		Unstandardized Residual
N		156
Normal Parameters ^{a,b}	Mean	-3.2536519
	Std. Deviation	5.18218412
	Absolute	0.060
	Positive	0.053
	Negative	-0.060
Test Statistics		0.060
Asymp. Sig. (2-tailed)		0.200 ^{c,d}

Source: Output SPSS version 26

Normality test was carried out using the method One-Sample Kolmogorov-Smirnov to verify whether the residuals of the regression model are normally distributed. Table 2 yields a test statistic of 0.060 with an asymptotic significance level (2-sided) of 0.200. This result clearly exceeds the threshold value. $\alpha = 5\%$ After outlier handling, the residuals of the regression model have met the normality assumption so that testing can proceed to the next stage with adequate statistical validity.

Multicollinearity Test**Table 3 Multicollinearity Test Results**

Variables	Tolerance	VIF Value	Interpretation
X1 (DER)	0.813	1.230	Multicollinearity Free
X2 (TATO)	0.991	1.009	Multicollinearity Free
X3 (CR)	0.820	1.220	Multicollinearity Free

Source: Output SPSS version 26

The multicollinearity test aims to detect the presence or absence of high correlations among independent variables in a regression model, which can distort coefficient estimates. Referring to the data presented in Table 3, it is found that the Variance Inflation Factor (VIF) for each explanatory variable is far below the critical value of 10. Variable X1 (DER) has a Tolerance value of 0.813 and a VIF of 1.230; variable X2 (TATO) has a Tolerance value of 0.991 and a VIF of 1.009; and variable X3 (CR) has a Tolerance value of 0.820 and a VIF of 1.220. Overall VIF values close to one and Tolerance values close to one consistently confirm that there is no multicollinearity problem among the independent variables in the model. This condition means that each independent variable provides unique information and does not overlap substantially with other independent variables, so that the estimation of the regression coefficient can be relied upon for accuracy.

Heteroscedasticity Test**Table 4 Heteroscedasticity Test Results**

Variables	Sig.	Interpretation
X1 (DER)	0.063	Heteroscedasticity Free
X2 (TATO)	0.143	Heteroscedasticity Free
X3 (CR)	0.863	Heteroscedasticity Free

Source: Output SPSS version 26

Heteroscedasticity testing is carried out using Uji Glesjer by regressing the absolute value of the residual against the independent variables. Based on Table 4, variable X1 (DER) produces a significance value of $0.063 > 0.05$; variable X2 (TATO) produces a significance value of $0.143 > 0.05$; and variable X3 (CR) produces a significance value of $0.863 > 0.05$. Since all independent variables have significance values exceeding $\alpha = 0.05$, it can be concluded that there is no heteroscedasticity problem in the regression model. This means that the residual variance is homogeneous (homoscedastic) across the range of independent variable values, so that the classical assumptions of regression are met and the coefficient estimates remain efficient.

Autocorrelation Test**Table 5 Autocorrelation Test Results Durbin Watson**

dU	Durbin-Watson	4-dU
1.778	1.804	2.222

Source: Output SPSS version 26

The autocorrelation test was performed using statistics Durbin-Watson (DW) to detect the presence of correlation between residuals in consecutive observations. Based on Table 5, the DW value obtained is 1.804 with $N = 156$ and $K = 3$. The lower limit value (dL) is 1.699 and the upper limit value (dU) is 1.778. Referring to the Durbin-Watson decision-making rule, the autocorrelation-free condition is met if $dU < d < 4-dU$. The calculation produces a range of 1.778

$< 1.804 < 2.222$, which means the DW value is right within the autocorrelation-free zone. Thus, the regression model does not contain positive or negative autocorrelation problems, so that all classical assumptions have been met and the regression analysis can be continued with full confidence in the validity of its estimates.

Results of Multiple Linear Regression Analysis

Table 6 Test Results Coefficients

Models		Unstandardized Coefficients	
		B	Std. Error
1	(Constant)	0.023	0.103
	X1 (DER)	-0.251	0.085
	X2 (TATO)	-0.024	0.069
	X3 (CR)	-0.198	0.078

Source: Output SPSS version 26

Based on the results of the multiple linear regression analysis in the table above, the regression equation formed is as follows:

$$Y = 0.023 - 0.251(DER) - 0.024 (TATO) - 0.198 (CR) + \varepsilon$$

The negative coefficients for each predictor variable confirm an inverse relationship. This pattern suggests that any increase in these variables tends to depress the company's market value. Among these variables, capital structure (DER) has the most dominant influence.

Determinant Coefficient Test

Table 7 Determinant Coefficients

Model	R	R Square	Adjusted R- Square	Std. Error of the Estimate
1	0.261 ^a	0.068	0.050	0.77112

Source: Output SPSS version 26

The coefficient of determination (R^2) of 0.068 indicates that the variables of capital structure, asset effectiveness, and liquidity together only explain 6.8% of the variation in firm value (PBV) in infrastructure companies listed on the IDX. A more conservative adjusted R^2 value is 0.050, or 5.0%, after adjusting for the number of independent variables and observations. The remaining 93.2% of the variation in firm value is explained by factors outside this research model.

F Test (Simultaneous)

Table 8 F-Test Results (Simultaneous)

Models		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	6.627	3	2.209	3.715	0.013 ^b
	Residual	90.384	152	0.595		
	Total	97.011	155			

Source: Output SPSS version 26

Based on the results of simultaneous testing (F Test), the calculated F value was obtained at 3.715 with a significance level of 0.013. Since the significance value is less than $\alpha = 0.05$, it can be concluded that capital structure (DER), asset effectiveness (TATO), and liquidity (CR) simultaneously have a significant effect on firm value (PBV) in infrastructure companies listed on the IDX. This finding confirms that the constructed regression model is suitable for use (goodness of fit) to explain the phenomenon of infrastructure firm value, although its explanatory power (R^2) is still relatively low.

The model in explaining the variation in firm value indicated by R^2 of 0.068 (6.8%) indicates that there are other factors outside the model that significantly influence the value of infrastructure companies.

t-test (Partial)

Table 9 Results of the t-Test (Partial)

	Models	t-value	Sig.
1	(Constant)	0.222	0.825
	X1 (DER)	-2.956	0.004
	X2 (TATO)	-0.351	0.726
	X3 (CR)	-2.545	0.012

Source: Output SPSS version 26

The partial test (t-test) aims to determine the effect of each independent variable individually on the dependent variable by controlling for the influence of other variables. Based on Table 9, the capital structure variable (X1) produces a calculated t-value of -2.956 with a significance value of $0.004 < 0.05$, thus it can be concluded that capital structure has a negative and significant effect on firm value.

This means that the higher the proportion of debt used (DER) in BEI infrastructure companies, the lower the market assessment of the company's value. This is consistent with the argument that leverage Excessive leverage increases the risk of financial distress, which is perceived negatively by investors. The asset effectiveness variable (X2) yields a t-value of -0.351 with a significance value of $0.726 > 0.05$, thus concluding that asset effectiveness does not significantly influence firm value. Although the direction is negative, this result indicates that TATO variations in BEI infrastructure companies are not sufficiently able to consistently differentiate high and low firm values in this study sample, possibly due to the unique characteristics of the infrastructure sector which has a structurally low asset turnover but is still highly valued by the market based on other factors such as concessions, regulations, and long-term growth potential.

The liquidity variable (LX3) yields a t-value of -2.545 with a significance value of $0.012 < 0.05$, thus concluding that liquidity has a negative and significant effect on firm value. These empirical findings justify the rejection of H_3 (null hypothesis) which initially assumed that liquidity has no impact on firm value at a 5% error rate. Rejection of H_3 means that Current Ratio proven to have a significant influence, although in a negative direction, so that the empirical findings of this study actually contradict the direction of the previously proposed hypothesis and open up deeper theoretical implications regarding the role excess liquidity in infrastructure companies. This finding indicates that excess current assets in infrastructure companies are viewed by market participants as inefficient working capital management, as funds held in current assets have the potential to generate lower returns than if reinvested in productive infrastructure projects, thus lowering investors' expectations of the company's value.

DISCUSSION

The Influence of Capital Structure on Firm Value

The results of partial testing show that the capital structure is proxied by Debt to Equity Ratio (DER) has a negative and significant effect on firm value in BEI infrastructure companies, with a calculated t value of -2.956 and a significance level of 0.004. Thus, H_0 which states that capital structure has no effect on firm value is rejected, and H_1 which states that capital structure has an effect on firm value is accepted at a significance level of $\alpha = 0.05$. This finding means that the higher the proportion of debt used by an infrastructure company relative to its equity, the lower the market assessment of the firm's value, as reflected in the DER regression coefficient of -0.251 in the logarithmic model.

This result is in line with the argument trade-off theory which states that the use of debt beyond the optimal point will result in financial difficulties costs (financial distress cost) which erodes the tax benefits of the debt itself, ultimately degrading the company's value (Hastutik et al., 2022) found that in Indonesian infrastructure companies, high levels of leverage tend to exacerbate investor risk perceptions because large interest expenses threaten the sustainability of operational cash flows, especially during periods of high interest rates. This is also confirmed by the average DER of the study sample, which reached 1.0920, indicating that in general, BEI infrastructure companies rely more on debt-based funding than equity, so that the leverage risk perceived by investors becomes more pronounced. This finding is consistent with research (Erdi, 2024) which found a negative effect of capital structure on the value of infrastructure companies in Indonesia.

The Influence of Asset Effectiveness on Firm Value

Asset effectiveness variable proxied through Total Asset Turnover (TATO) shows insignificant results on firm value, with a calculated t value of -0.351 and a significance of 0.726 which far exceeds $\alpha = 0.05$. Thus, H_0 which states that asset effectiveness has no effect on firm value is accepted, and H_2 which states that asset effectiveness has an effect on firm value is rejected at a significance level of $\alpha = 0.05$. The TATO regression coefficient of -0.024 in the logarithmic model indicates that although the direction is negative, the effect is not strong enough to consistently differentiate firm value in the eyes of investors.

These findings indicate that in the context of BEI infrastructure companies, high or low asset turnover rates do not consistently differentiate firm value in the eyes of investors. This can be explained by the structural characteristics of the infrastructure industry, which are inherently capital-intensive with very large fixed asset values, the TATO ratio will inherently always be low, as reflected in the sample's average TATO value of only 0.4021, without reflecting poor management performance. Investors in the infrastructure sector tend to use a valuation approach based on concessions, regulations, and long-term cash flow guarantees rather than short-term asset turnover efficiency, making TATO less relevant as a value signal in this industry.

This is in line with the argument (Mercyana et al., 2022) which states that the influence asset turnover on firm value is highly dependent on the industry context, and sectors with massive infrastructure investments are valued more on the scale of assets and their long-term competitive position than on the speed of generating revenue from the assets. The unique characteristic of infrastructure companies is that the large value of fixed assets (fixed assets) is a strategic capital to generate long-term income through concession permits, causing TATO to no longer be the main indicator in market assessment.

Furthermore, this phenomenon can be explained through the theory of corporate valuation which states that infrastructure sector investors give greater weight to qualitative factors such as regulatory stability, length of concession period, and ability to generate recurring cash flows (recurring cash flow) compared to conventional asset efficiency ratios. The implication of these findings is that investors and financial analysts need to consider a different valuation

framework for the infrastructure sector, beyond simply applying the standard efficiency ratios developed in the manufacturing sector.

The Effect of Liquidity on Firm Value

Liquidity variables are proxied through Current Ratio (CR) is proven to have a negative and significant effect on firm value, with a calculated t value of -2.545 and a significance of 0.012. Thus, H_0 which states that liquidity does not affect firm value is rejected, and H_3 which states that liquidity affects firm value is accepted at a significance level of $\alpha = 0.05$ because the results of the study actually prove that liquidity has a negative and significant effect on firm value. The CR regression coefficient of -0.198 in the logarithmic model strengthens the finding that an increase in liquidity position actually has an impact on reducing firm value statistically.

This unique fact shows that the increase in the working capital adequacy ratio, indicated by an average CR value of 1.7634 with a data distribution level (standard deviation) of 1.9176, is inversely proportional to stock price appreciation by investors on the stock exchange. This finding is consistent with the argument that excess current assets (excess liquidity) in infrastructure companies is perceived by the market as an indication of inefficient use of capital, because funds that should be allocated for productive investment are instead held in the form of cash and cash equivalents which produce low returns.

Research (Karoline, 2023) found that the negative relationship between liquidity and firm value in the Indonesian infrastructure sector reflects opportunity cost from excess cash that is not optimally invested. Infrastructure companies with cash holding Excessive liquidity tends to receive a discount from the market, as investors question the quality of managerial decision-making in allocating resources. In emerging market environments, excess liquidity often reflects management's inability to identify profitable investment opportunities, rather than strategic prudence, leading to negative market perceptions.

This finding contradicts the traditional assumption that high liquidity always has a positive impact on firm value. For infrastructure companies, the optimal liquidity balance (optimal liquidity level) is crucial, not too low, which would indicate a risk of failure to meet short-term obligations, but also not too high, which would indicate inefficient capital allocation. The managerial implication is that management must maintain liquidity at a level sufficient to meet short-term obligations without sacrificing long-term capital allocation efficiency.

CONCLUSION

This study analyzes the influence of capital structure (DER), asset effectiveness (TATO), and liquidity (CR) on firm value (PBV) in infrastructure companies on the Indonesian Stock Exchange (IDX) for the 2020-2024 period with 156 observations. The analysis results show that all three variables simultaneously have a significant effect on PBV ($F = 3.715$; $\text{sig} = 0.013$), although the R^2 is only 6.8%, indicating that other factors outside the model are still present dominates. Partially, DER has a significant negative effect ($\text{sig} = 0.004$) which confirms trade-off theory that leverage excessively increasing the perception of risk financial distress; TATO is not significant ($\text{sig} = 0.726$) infrastructure investors value long-term factors such as concessions and regulations more than asset turnover efficiency; while CR has a significant negative effect ($\text{sig} = 0.012$) which is surprising, indicating excess liquidity perceived as capital allocation inefficiency because opportunity cost delayed funding. These results demonstrate that a prudent funding strategy and efficient working capital management without excessive debt are key to optimizing the expected firm value in the eyes of infrastructure sector investors. The theoretical implication of this research is that the valuation framework for infrastructure companies requires a contextual approach different from that of the manufacturing sector, rather than simply adopting conventional financial ratios.

For the management of infrastructure issuers, it is recommended to control the ratio leverage in a safe zone and maintain the availability of liquidity at a moderate level without allowing it to occur excess liquidity for investors, evaluation of infrastructure issuers should prioritize qualitative factors such as regulatory stability and concession periods over conventional efficiency indicators like TATO. The limitations of this study lie in the relatively low coefficient of determination (6.8%) and the limited observation period. For further research, it is recommended to add moderating variables such as corporate governance (corporate governance), profitability (ROE), as well as macroeconomic indicators such as inflation rates and fluctuations in banking interest rates to expand the explanatory power of the research model.

SUGGESTION

It is for sure that your research will have some limitations and it is normal. However, it is critically important for you to be striving to minimize the range of scope of limitations throughout the research process. Also, you need to provide the acknowledgement of your research limitations in conclusions chapter honestly.

It is always better to identify and acknowledge shortcomings of your work, rather than to leave them pointed out to you by your dissertation assessor. While discussing your research limitations, don't just provide the list and description of shortcomings of your work. It is also important for you to explain how these limitations have impacted your research findings.

Your research may have multiple limitations, but you need to discuss only those limitations that directly relate to your research problems. For example, if conducting a meta-analysis of the secondary data has not been stated as your research objective, no need to mention it as your research limitation.

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