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When Internal Funds Meet Debt: The Role of Profitability in the Free Cash Flow–Debt Policy Relationship

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ABSTRACT: This study examines the effect of free cash flow on debt policy and the extent to which profitability changes this relationship in infrastructure firms listed on the Indonesia Stock Exchange. The study covers 51 firms during 2021–2023, providing 153 firm-year observations. The analysis uses a Fixed Effects Model with cross-sectional robust standard errors. The results show that free cash flow is positively and significantly associated with debt policy ($\beta = 0.0219$; $p < 0.001$). The interaction between free cash flow and profitability is positive and significant ($\beta = 0.1625$; $p = 0.0028$), while the moderated model explains 96.52% of the variation in debt policy (Adjusted $R^2 = 0.9652$). The positive interaction indicates that profitability strengthens, rather than weakens, the relationship between free cash flow and debt policy. Thus, Hypothesis 2 is not supported. The findings suggest that infrastructure firms may use internal funds and debt as complementary sources of financing, reflecting the sector's substantial investment requirements. These findings provide evidence that financing decisions in capital-intensive firms may not be fully explained by the financing hierarchy proposed by the Pecking Order Theory. The results also suggest that managers and creditors should consider profitability and internal cash availability jointly when evaluating financing decisions.

KEYWORDS: Free Cash Flow; Debt Policy; Profitability; Pecking Order Theory; Infrastructure Sector

INTRODUCTION

Capital structure is a fundamental concern in corporate finance because firms must determine how to finance their operations and investment activities through an appropriate combination of debt and equity. This decision extends beyond the choice of financing sources, as the financing mix affects financial risk, cost of capital, future funding flexibility, and long-term sustainability. Empirical research has highlighted the importance of leverage decisions for firm value and financial stability, particularly when firms operate under economic uncertainty (Frank & Goyal, 2009; Vo & Ellis, 2017).

Although the Trade-Off Theory and Pecking Order Theory provide established explanations of corporate financing behavior, empirical evidence on debt policy remains mixed, particularly in emerging markets and capital-intensive industries (Lemma & Negash, 2011; Huang & Ritter, 2009). The infrastructure sector is particularly relevant because firms typically require substantial fixed-asset investment and operate through long project cycles, resulting in persistent financing requirements. Firms in capital-intensive industries therefore tend to maintain higher leverage than those in less asset-intensive sectors (Acaravci, 2015).

In Indonesia, sustained government investment in infrastructure development has increased financing requirements among firms listed on the Indonesia Stock Exchange. Although infrastructure investment is expected to support long-term economic growth, it also raises questions about the sustainability of corporate financing strategies and the extent to which infrastructure firms rely on debt financing (Nguyen et al., 2017; Vo & Ellis, 2017; Hamouda et al., 2023).

One factor that may influence debt policy is free cash flow (FCF), which reflects the internal funds available to firms after operating and investment requirements. From the perspective of the Pecking Order Theory, internally generated funds are generally preferred to external financing because they avoid the information asymmetry associated with raising funds from outside investors. Consequently, firms with greater internal financial capacity would be expected to rely less on debt (Alipour et al., 2015; Nguyen et al., 2017). However, this prediction may not fully capture financing behavior in capital-intensive industries.

In infrastructure, firms may continue to rely on debt even when substantial internal funds are available. Large-scale projects, long investment horizons, and recurring capital expenditures can generate financing requirements that exceed internally available resources. Thus, the relationship between FCF and debt policy may depend on the characteristics of the industry and the firm's financial condition. Existing evidence on the relationship between internal funds and leverage is also not entirely consistent across institutional settings (Nguyen et al., 2017; Vo & Ellis, 2017). Profitability may further shape this relationship. More profitable firms generally generate greater retained earnings and have stronger internal financing capacity, which may reduce their reliance on external debt. At the same time, profitable firms may have better creditworthiness and greater access to debt financing, creating a potential tension between internal financing preferences and the benefits of external debt (Frank & Goyal, 2009). Recent evidence suggests that profitability may influence how firms adjust their leverage in response to internal financial resources, although the direction of this effect remains context dependent (Hamouda et al., 2023; Ermalini & Badera, 2025; Jaiswal & Elmarzouky, 2025). Despite the growing literature, several gaps remain. Prior research has largely examined the direct relationship between free cash flow and debt policy, while evidence from infrastructure firms in emerging markets remains limited (Acaravci, 2015; Nguyen et al., 2017). More importantly, relatively little attention has been given to whether profitability changes the relationship between internal cash availability and debt financing, particularly in capital-intensive industries. It therefore remains unclear whether profitability strengthens or weakens the financing pattern associated with the Pecking Order Theory.

To address this gap, this study examines the effect of free cash flow on debt policy and investigates whether profitability moderates this relationship among infrastructure firms listed on the Indonesian Stock Exchange. By focusing on a capital-intensive industry in an emerging market, the study provides a contextual assessment of how internal financial capacity and profitability jointly shape corporate financing decisions.

This study makes three contributions. First, it provides sector-specific evidence from infrastructure firms, whose financing requirements differ from those of firms in less capital-intensive industries. Second, it extends the analysis of free cash flow and debt policy by examining profitability as a moderating factor rather than only as a direct determinant of leverage. Third, it contributes evidence from an emerging market, thereby extending the discussion of capital structure theories beyond the institutional settings that dominate the existing literature.

The findings are expected to contribute to the understanding of the conditions under which the financing preferences proposed by the Pecking Order Theory are more or less evident. They may also provide practical insights for managers, creditors, and policymakers when assessing the balance between internally generated funds and external financing in infrastructure firms.

LITERATURE REVIEW

Theoretical Foundations

Pecking Order and Trade-Off Theory

Pecking Order Theory explains financing choices through information asymmetry between managers and external investors. Firms generally prefer internally generated funds, followed by debt, and use equity as a last resort because external financing may involve higher information costs (Myers & Majluf, 1984). Accordingly, firms with greater internal financial capacity are expected to rely less on external debt, while financing deficits tend to increase borrowing (Shyam-Sunder & Myers, 1999). This perspective provides the theoretical basis for examining whether free cash flow influences debt policy.

Trade-Off Theory offers a complementary perspective by suggesting that firms balance the benefits of debt, particularly tax advantages, against financial distress and other costs of excessive leverage. Rather than viewing debt solely as a response to financing deficits, the theory implies that firm characteristics such as profitability and asset capacity can affect the attractiveness and capacity of borrowing (Frank & Goyal, 2009). These contrasting perspectives are particularly relevant to infrastructure firms, which require substantial and continuing investment and may maintain debt financing even when internal funds are available.

Taken together, the two theories suggest that the relationship between free cash flow and debt policy may depend on firm-specific financial conditions. While Pecking Order Theory predicts that greater internal funds should reduce reliance on debt, profitability may alter this relationship by affecting both internal financing capacity and access to external financing. This provides the theoretical basis for examining profitability as a moderating variable in the FCF–debt policy relationship.

Review of Prior Empirical Studies

Free Cash Flow and Debt Policy

The relationship between free cash flow (FCF) and debt policy has been widely examined, although prior studies have not reached consistent conclusions across different institutional settings. Agency theory provides one explanation for this relationship by viewing debt as a mechanism that can limit managerial discretion over excess internal funds. In developed markets, empirical studies have found that firms with greater discretionary cash flows tend to rely more heavily on debt, especially when their growth opportunities are limited, as debt can reduce the potential for managerial overinvestment (Lang et al., 1996; Aivazian et al., 2005). Evidence from cross-country research also indicates that debt can serve a disciplinary function, particularly in countries where internal corporate governance mechanisms are less effective (De Jong et al., 2008).

Other studies, however, report a negative association between internally generated funds and leverage. From the financing hierarchy perspective, firms generally prefer to use internal funds before turning to external sources of financing. Thus, when firms generate sufficient internal cash flow, their need to obtain additional debt tends to decline, which may result in lower leverage (Shyam-Sunder & Myers, 1999; Frank & Goyal, 2003). Internal funds therefore serve as an alternative to debt, allowing firms to retain greater financial flexibility while reducing their exposure to financial distress. Evidence from emerging markets also points to mixed results. While some studies support the role of debt in controlling excess cash flows, others find that the relationship is either insignificant or negative. These inconsistent findings suggest that the effect of FCF on debt policy may vary across firms and institutional settings, depending on their financial conditions and governance characteristics. The lack of a clear empirical pattern provides a basis for further examining the factors that may shape the relationship between FCF and leverage.

The Role of Profitability

Profitability is an important consideration in firms' capital structure decisions. Firms with higher profits generally generate more internal funds, which can reduce their reliance on external financing and debt. This is consistent with the pecking order perspective, in which internal funds are preferred before external financing (Myers & Majluf, 1984; Shyam-Sunder & Myers, 1999). Profitability has also been identified as an important firm-specific factor in capital structure decisions (Rajan & Zingales, 1995; Frank & Goyal, 2009). At the same time, profitable firms may have greater financial flexibility and easier access to external financing when additional funds are required (Danis et al., 2014). These arguments suggest that profitability can influence firms' financing choices and their reliance on debt.

Hypotheses Development

Free Cash Flow and Debt Policy

The relationship between free cash flow and leverage can be explained from the agency cost perspective. High free cash flow gives managers greater discretion over the use of corporate resources and may encourage investments or expenditures that do not necessarily increase firm value (Jensen, 1986). Debt can reduce this discretion because interest and principal payments commit firms to regular cash outflows, thereby limiting the funds available for managerial use (Stulz, 1990). This disciplinary role of debt is particularly relevant when firms have substantial internally generated cash and greater potential for agency problems. Although the pecking order perspective suggests that firms generally prefer internal funds over external financing (Myers & Majluf, 1984), excess free cash flow may create a different financing incentive when debt is used to impose financial discipline. Therefore, firms with higher free cash flow are expected to use more debt relative to their assets.

H1: Free cash flow has a positive effect on debt policy.

The Moderating Role of Profitability

The effect of free cash flow on debt policy may differ across firms depending on their profitability. When free cash flow is high, firms may use debt to constrain managerial discretion and reduce the potential agency costs associated with excess cash (Jensen, 1986). However, this incentive may be less pronounced when firms are highly profitable because strong profitability provides greater capacity to finance investment and operating needs internally. In such circumstances, increasing debt may be less necessary, allowing firms to preserve financial flexibility. Thus, profitability may alter the extent to which firms use debt in response to free cash flow. As profitability increases, the positive relationship between free cash flow and leverage is expected to become weaker. Accordingly, the second hypothesis is formulated as follows:

H2: Profitability weakens the association between free cash flow and debt policy

METHODOLOGY

This study adopts a quantitative explanatory research design to examine the hypothesized relationship between free cash flow and debt policy and to investigate the moderating role of profitability within the framework of the Pecking Order Theory. An explanatory design is appropriate because the objective is not merely to describe financial patterns but to empirically test theoretically derived hypotheses and assess the direction and strength of the proposed relationships. The analysis employs panel data, combining cross-sectional observations across firms with time-series observations over multiple years. The use of panel data offers several methodological advantages. First, it enables the analysis to account for unobserved firm-specific heterogeneity that could otherwise affect the estimated relationships. Second, by increasing the number of observations, panel data provide greater degrees of freedom and can improve estimation efficiency. Third, this approach captures both differences among firms and changes within firms over time, allowing for a more comprehensive examination of debt policy decisions.

Population and Sample

The population of this study comprises all infrastructure firms listed on the Indonesia Stock Exchange (IDX) during the 2021–2023 period. The infrastructure sector is selected because of its capital-intensive nature, substantial fixed asset base, long-term investment horizons, and ongoing capital expenditure commitments. These structural characteristics make infrastructure firms particularly suitable for examining financing behavior within the framework of the Pecking Order Theory, as funding decisions in such firms typically involve significant trade-offs between internal and external sources of capital. The sampling procedure employs purposive sampling based on the following criteria: (1) firms must be consistently classified within the infrastructure sector throughout the 2021–2023 period; (2) firms must publish audited annual financial statements for each year of observation; and (3) firms must provide complete financial information necessary to compute all research variables, including operating cash flow, capital expenditures, total assets, total debt, net income, ownership structure, and growth indicators. After applying these criteria, 51 firms met the sample requirements. Given the three-year observation window, the final dataset consists of 153 firm-year observations. The use of a balanced panel ensures consistency in estimation and enhances comparability across firms and over time.

Data Type and Source

This study relies on secondary data obtained from audited annual financial statements publicly available on the official Indonesia Stock Exchange (IDX) website and the respective corporate websites of the sampled firms. The financial statement components utilized in the analysis include total assets, total liabilities, net income, cash flows from operating activities, capital expenditures, and equity ownership information. All financial data are extracted from audited and publicly disclosed reports to ensure reliability, accuracy, and consistency across firms and over time. The use of audited financial statements enhances the credibility of the dataset and reduces potential measurement bias in the empirical analysis.

Definition and Measurement of Variables

This section outlines the operational definitions and measurement approaches for all variables employed in the study. Each variable is defined in accordance with established literature and measured using standardized financial ratios derived from audited annual financial statements. The measurement procedures are designed to ensure conceptual validity, empirical consistency, and comparability across firms and over time.

The dependent, independent, and moderating variables are operationalized as follows:

Dependent Variable: Debt Policy

Debt policy is proxied by the leverage ratio, measured as total debt divided by total assets.

Debt Policy = (Total Debt/Total Assets)

This ratio represents the proportion of a firm's total assets financed through debt and is widely employed as a proxy for leverage intensity in capital structure research.

Independent Variable: Free Cash Flow (FCF)

Free cash flow is calculated as follows:

$$FCF = (Operating\ Cash\ Flow - Capital\ Expenditure) / Total\ Assets$$

Free cash flow represents the residual cash generated from operating activities after accounting for capital expenditures required to maintain or expand the firm's asset base. It reflects the discretionary cash available for debt repayment, dividend distribution, or additional investment.

Moderating Variable: Profitability

Profitability is proxied by Return on Assets (ROA), calculated as follows:

$$ROA = Net\ Income / Total\ Assets$$

ROA measures a firm's ability to generate net income from its total asset base and reflects managerial efficiency in utilizing company resources. A higher ROA indicates stronger profitability and more effective asset utilization.

Control Variables

To mitigate potential omitted variable bias, this study incorporates several control variables that are commonly associated with debt policy decisions:

1. Firm Size (SIZE) is measured as the natural logarithm of total assets.

$$SIZE = \ln(Total\ Assets)$$

Larger firms typically have greater access to external financing, more diversified operations, and lower default risk, which may influence their leverage decisions.

2. Institutional Ownership (OWN) is measured as the percentage of outstanding shares held by institutional investors. Higher institutional ownership may enhance monitoring effectiveness and influence managerial financing choices, thereby affecting debt policy.
3. Firm Growth (GROWTH) is measured by the annual growth rate of total assets.

$$Growth = \frac{Total\ Assets\ t - Total\ Assets\ t-1}{Total\ Assets\ t-1}$$

Firms experiencing higher growth generally require additional financing to support expansion, which may increase their reliance on external debt.

Model Specification

To test the proposed hypotheses, three regression models are specified and estimated in a sequential manner to systematically assess the relationships among the variables.

Model 1 (Baseline Model)

Model 1 estimates the baseline relationship between Free Cash Flow and debt policy, including the control variables, without incorporating the moderating variable.

$$DEBT_{it} = \beta_0 + \beta_1 FCF_{it} + \beta_2 SIZE_{it} + \beta_3 GROWTH_{it} + \beta_4 INST_{it} + \mu_i + \varepsilon_{it}$$

Model 2 (Main Effect Model)

Model 2 extends the baseline specification by introducing Profitability as an independent variable to examine its direct effect on debt policy.

$$DEBT_{it} = \beta_0 + \beta_1 FCF_{it} + \beta_2 PROF_{it} + \beta_3 SIZE_{it} + \beta_4 GROWTH_{it} + \beta_5 INST_{it} + \mu_i + \varepsilon_{it}$$

Model 3 (Moderated Regression Model / Interaction Model)

Model 3 tests the moderating role of Profitability in the relationship between Free Cash Flow and debt policy by incorporating the interaction term between Free Cash Flow and Profitability ($FCF \times Profitability$).

$$DEBT_{it} = \beta_0 + \beta_1 FCF_{it} + \beta_2 PROF_{it} + \beta_3 (FCF_{it} * PROF_{it}) + \beta_4 SIZE_{it} + \beta_5 GROWTH_{it} + \beta_6 INST_{it} + \mu_i + \varepsilon_{it}$$

Explanation of the Model Components:

DEBT - Debt Ratio

β_0 - Intercept (Constant)

$\beta_1 FCF_{it}$ - Free Cash Flow

$\beta_2 PROF_{it}$ - Profitability

$\beta_3 (FCF_{it} * PROF_{it})$ - Interaction Term

$\beta_4 SIZE_{it}$ - Firm Size (Control Variable)

$\beta_5 GROWTH_{it}$ - Firm Growth (Control Variable)

$\beta_6 INST_{it}$ - Institutional Ownership (Control Variable)

μ_i - Firm Fixed Effect

ε_{it} - error term

The sequential estimation of the three models enables a systematic examination of both the direct effect (H_1) and the moderating effect (H_2). Comparing the models across specifications enhances robustness and facilitates a clearer interpretation of how internal liquidity and profitability jointly shape corporate debt policy decisions.

Data Analysis Procedure

Data analysis was conducted using EViews software. All estimations were performed employing the Fixed Effects Model (FEM) with cross-sectional robust standard errors to address potential heteroskedasticity across firms and to ensure reliable and consistent statistical inference. The empirical testing procedure was carried out in several stages:

1. **Descriptive Statistics** were generated to examine the distributional properties, central tendencies, and variability of the research variables.
2. **Panel Data Model Selection** was conducted to determine the most appropriate estimator. The Chow test was applied to compare the Common Effects Model (CEM) and the Fixed Effects Model (FEM), while the Hausman test was used to choose between the Fixed Effects Model (FEM) and the Random Effects Model (REM).
3. **Model Estimation** was performed using the selected panel regression approach, namely the Fixed Effects Model.
4. **Hypothesis Testing** was conducted using t-statistics to assess the statistical significance of individual regression coefficients.
5. **Model Evaluation** included examining the Adjusted R^2 to evaluate the explanatory power of the model in accounting for variations in corporate debt policy.

RESULTS AND DISCUSSION

Descriptive Statistics

This section reports the descriptive statistics of all variables used in the study, including measures of central tendency and dispersion. These statistics provide an overview of the distributional characteristics and variability of the research variables.

Table 1. Descriptive Statistics

Variables	Obs	Mean	Max	Min	Std. Dev.
Free Cash Flow	153	0.501234	43.47283	-3.343883	4.252327
Debt Policy	153	1.914120	149.8694	-34.93000	12.60870
Profitability	153	-0.043072	0.260000	-4.400000	0.465488
Firm Size	153	27.98463	33.29065	16.33594	3.461304
Ownership	153	0.642810	1.000000	0.000000	0.250674
Growth	153	0.100131	5.360000	-0.770000	0.523412

Source: data processing results

Table 1 reports the descriptive statistics for 153 firm-year observations. Free cash flow (FCF) shows a positive mean of 0.501, but with substantial dispersion (Std. Dev. = 4.252), indicating considerable variability in internal liquidity across firms. Debt policy (DEBT) has a mean of 1.914 and exhibits high variability (Std. Dev. = 12.609), reflecting heterogeneity in leverage decisions. Profitability (PROF) records a slightly negative mean (-0.043), suggesting that firms, on average, experienced marginal losses during the observation period. Firm size (SIZE) displays moderate variation, while institutional ownership (OWN) averages 64.3%, indicating relatively strong institutional presence across firms. Firm growth (GROWTH) averages 10%, although the wide range suggests fluctuations in expansion performance. Overall, the variability observed across variables supports the use of panel regression with firm fixed effects and robust standard errors.

Panel Data Model Selection

Panel model selection was performed using the Chow and Hausman tests to identify the most appropriate estimator. The results are presented in Tables 2 and 3.

Table 2. Chow Test Results

F (50,96)	=	11,785903
Prob < F	=	0,0000

Source: data processing results

The Chow test yields an F-statistic of 11.7859 ($p = 0.0000$), indicating that the null hypothesis of a common intercept is rejected. This suggests the presence of firm-specific effects and supports the use of the Fixed Effects Model over the Common Effects Model.

Table 3. Hausman Test Results

Chi ² (6)	=	94,600577
Prob < Chi ²	=	0,0000

Source: data processing results

The Hausman test yields a Chi-square value of 94.6006 ($p = 0.0000$), leading to the rejection of the null hypothesis. This result indicates that firm-specific effects are correlated with the regressors, supporting the use of the Fixed Effects Model over the Random Effects Model.

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Regression Analysis Results

This section reports the Fixed Effects regression results estimated with cross-sectional robust standard errors. The model controls for unobserved firm-specific heterogeneity, and statistical inference is based on robust t-statistics.

Table 4. Model 1: Baseline Model (Effect of Free Cash Flow)

Variables	Coefficient	t-statistic	Prob.
C	47.72045	11.97505	0.0000
FCF	0.021917	4.369576	0.0000
Firm Size	-1.682109	-11.82462	0.0000
Ownership	-0.533022	-2.321707	0.0223
Growth	1.544684	6.991268	0.0000
Adjusted R-squared		0.985752	
F-statistic		195.7449	
Prob(F-statistic)		0.000000	

Source: data processing results

Table 4 reports the Fixed Effects regression results examining the direct effect of Free Cash Flow (FCF) on debt policy. Free Cash Flow (FCF) shows a positive and statistically significant coefficient ($\beta = 0.0219$; $p < 0.001$). This finding indicates that, within the same firm over time, an increase in free cash flow is associated with an increase in debt policy. The result suggests that firms with greater internal cash availability may also increase their use of debt, supporting the view that free cash flow can be associated with financing structure decisions. The control variables are included to account for other firm-specific factors that may influence debt policy.

Model 1 provides evidence of a positive and statistically significant association between free cash flow and debt policy within firms, after controlling for firm size, ownership structure, and growth. The high explanatory power reflects the inclusion of firm fixed effects and the use of robust estimation.

Table 5. Model 2: Main Effect Model

Variables	Coefficient	t-statistic	Prob.
C	24.70102	8.765584	0.0000
FCF	0.009454	8.786744	0.0000
ROA	-3.432703	-16.64055	0.0000
Firm Size	-0.864318	-8.565437	0.0000
Ownership	-0.533896	-3.482090	0.0007
Growth	1.648673	14.92959	0.0000
Adjusted R-squared		0.955933	
F-statistic		60.95097	
Prob(F-statistic)		0.000000	

Source: data processing results

Model 2 incorporates profitability (ROA) into the baseline specification. Profitability shows a negative and statistically significant effect on debt policy ($\beta = -3.432703$; $p < 0.01$), indicating that more profitable firms rely less on debt, consistent with the Pecking Order Theory. After controlling for profitability, the coefficient of free cash flow declines to 0.009454 but remains significant, suggesting that internal liquidity continues to influence leverage decisions. The Adjusted R^2 of 0.955933 confirms strong explanatory power, indicating that profitability is an important determinant of debt policy while the effect of free cash flow remains robust.

Table 6. Model 3 (Moderated Regression Model/Interaction Model)

Variables	Coefficient	t-statistic	Prob.
C	24.95614	10.57478	0.0000
FCF	0.045835	3.887729	0.0002
ROA	-3.538676	-20.06142	0.0000
Interaction (XZ)	0.162474	3.064729	0.0028
Firm Size	-0.875258	-10.29949	0.0000
Ownership	-0.552119	-4.325773	0.0000
Growth	1.720711	17.18864	0.0000
Adjusted R-squared		0.965176	
F-statistic		76.22920	
Prob(F-statistic)		0.000000	

Source: data processing results

Model 3 indicates that profitability significantly moderates the association between free cash flow and debt policy, as evidenced by the positive and statistically significant interaction term. However, the positive direction of the interaction differs from the negative moderating effect predicted in Hypothesis 2. Accordingly, Hypothesis 2 is not supported and is therefore rejected.

DISCUSSION

Association Between Free Cash Flow and Debt Policy

The positive relationship between free cash flow and debt policy may be related to how firms manage their financing resources. Having more internally generated cash does not necessarily mean that a firm will avoid external financing. Firms with stronger cash flows may be in a better position to meet their debt obligations, which can make borrowing a more viable financing option. Debt can also help limit managerial discretion over excess cash, particularly when managers have opportunities to invest in projects that may not contribute to firm value. Jensen (1986) notes that debt can reduce the agency costs associated with free cash flow by limiting the amount of cash available for discretionary managerial use.

This finding can also be viewed from the perspective of the Pecking Order Theory. The theory suggests that firms generally prefer internal funds to external financing because information asymmetry can make external financing more costly. When external financing is needed, debt is typically preferred to equity (Myers & Majluf, 1984). The positive association found in this study does not necessarily contradict this view. Rather, it indicates that internally generated funds and debt may be used alongside each other, particularly when firms face substantial financing requirements. For capital-intensive firms, internal cash flows may not be sufficient to cover investment and expansion needs, making external borrowing necessary even when internal funds are available. Stronger cash flows may also improve a firm's ability to service debt. Therefore, the relationship between free cash flow and debt policy may depend on both the availability of internal funds and the firm's broader financing needs. This interpretation is in line with the empirical evidence of Frank and Goyal (2003), which shows that the predictions of the Pecking Order Theory are not consistently supported across firms and periods.

Moderating Role of Profitability

The positive interaction suggests that firms with higher profitability tend to increase debt when they also have higher free cash flow. Profitability may improve firms' access to external financing because profitable firms are generally viewed by creditors as having better financial conditions and repayment capacity. As a result, they may face fewer borrowing constraints and have greater flexibility in using debt.

Another possible explanation is that profitable firms with sufficient free cash flow may have more opportunities to expand their business or undertake new investments. In such conditions, internal funds may be used together with external financing to support investment and expansion. This interpretation is consistent with Danis et al. (2014), who find that profitable and financially flexible firms are more likely to adjust their debt levels. Dang et al. (2012) also show that profitable firms adjust their leverage in response to financial conditions and investment opportunities. The significant interaction term further suggests that profitability provides additional information for explaining the relationship between free cash flow and debt policy.

CONCLUSION

This study provides evidence that free cash flow is positively related to debt policy among Indonesian infrastructure firms. The finding suggests that firms with greater internal liquidity do not necessarily reduce their use of debt. Instead, free cash flow may provide financial flexibility and support access to external financing when investment needs require additional funds. The moderating analysis further shows that profitability strengthens the relationship between free cash flow and debt policy. This finding does not support Hypothesis 2, which proposed that profitability would weaken this relationship.

These findings contribute to the financing literature by showing that the relationship between internal funds and debt may not follow a simple substitution pattern. In the context of Indonesian infrastructure firms, internal liquidity and external debt appear to be used together to accommodate substantial and continuing financing requirements. This evidence adds to the discussion of the Pecking Order Theory and suggests that Trade-Off Theory may also provide useful perspectives for understanding financing decisions in this setting.

The findings also have practical implications for managers, investors, and creditors. Managers should consider free cash flow, profitability, and investment requirements jointly when determining financing decisions rather than treating internal funds and debt as mutually exclusive alternatives. For investors and creditors, free cash flow should be assessed together with the firm's profitability and financing needs when evaluating its debt position and financial flexibility.

Future research could examine whether this financing pattern persists across other industries and economic settings. Further studies may incorporate factors such as investment opportunities, financial constraints, asset tangibility, ownership concentration, and corporate governance. Using longer observation periods and alternative estimation methods may also provide additional evidence on how firms adjust their financing decisions under different financial and economic conditions.

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CONFLICT OF INTEREST

The authors declare that no conflict of interest exists in relation to this study.

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