



Financial Performance and Financial Flexibility in Mining Service Companies (A Case Study of PT XYZ)

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Abstract

Background: The rapid expansion of Indonesia's coal mining industry requires mining service companies to maintain strong financial performance and financial flexibility to support investment and sustainable growth. Corporate transformation may improve operational performance but can also increase capital expenditure and debt.

Objective: This study evaluates the financial performance of PT XYZ before and after its corporate transformation and examines the effects of financial performance indicators on financial flexibility.

Methods: This quantitative time-series study uses quarterly financial data from PT XYZ for 2013–2023, comprising 44 observations. Financial performance is measured using Return on Assets (ROA), Current Ratio (CR), Debt to Asset Ratio (DAR), Total Asset Turnover (TATO), and Investment Activity (INV), while financial flexibility is measured using the Cash Debt Coverage Ratio. The Autoregressive Distributed Lag (ARDL) approach is employed to examine short- and long-run relationships.

Results: Financial performance and financial flexibility improved after the transformation, although leverage increased. ARDL results show that ROA has a significant positive effect on financial flexibility in both the short and long run. DAR has a significant negative effect in both periods, while INV has a significant positive effect. CR has a significant negative effect only in the short run, whereas TATO has no significant effect. The bounds test confirms a long-run cointegration relationship (F-statistic = 8.97).

Conclusion: Corporate transformation improved PT XYZ's financial performance and financial flexibility. Profitability and productive investment strengthen financial flexibility, whereas higher leverage constrains it. Sustainable financial resilience therefore requires a balance between profitable growth, and productive investment.

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INTRODUCTION

Increasing economic growth has led to an increase in demand for electrical energy. To meet electricity needs, Indonesia is highly dependent on fossil power plants. Coal has become the center of Indonesia's energy policy, based on the latest PLN Electricity Supply Business Plan (RUPTL) published in 2025. The realization of Indonesia's power generation energy mix from primary energy sources of coal continues to increase from 56.1% in 2015 to 66.8% in 2024. The need for coal for power plants is estimated to increase from the current 90 million tons to 150–160 million tons by 2028–2030 (Reform, 2019; Bößner et al., 2024). This condition encourages an increase in coal production from year to year, both for domestic interests (domestic market obligations) and for export markets. This growth trajectory places substantial capital and

financing pressure on coal mining service companies, making financial performance and financial flexibility critical strategic concerns for sustainable business growth.

PT XYZ is one of the leading mining services companies in Indonesia that captures potential production growth opportunities in line with the continued increasing demand and production of Indonesian coal in the future. PT XYZ's operating performance experienced an increase in overburden production volume in 2013–2015, but since 2016–2018 it has been relatively stagnant and experienced a significant decline in 2019. The decrease in the volume of overburden is inversely proportional to the increase in national production from 2018–2019 by 10% or around 58 million tons. This inverse relationship between PT XYZ's stagnation and the sector's growth highlights the core research problem: whether the 2020 corporate transformation successfully improved financial performance, and whether the resulting financial performance indicators (particularly profitability, leverage, and investment activity) significantly affect the company's financial flexibility in the short and long term.

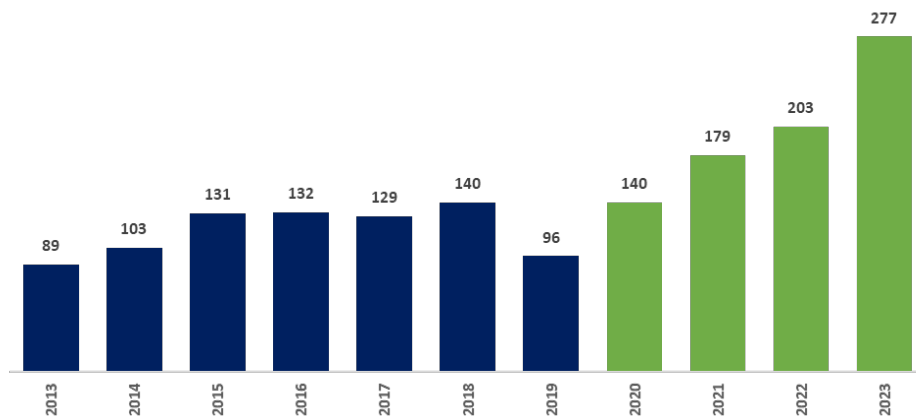


Figure 1. Volume overburden 2013–2023 PT XYZ (in million bcm)

As shown in Figure 1, PT XYZ's overburden production volume experienced an increase during 2013–2015, stagnation during 2016–2018, and a significant decline in 2019. Starting in 2020, following the initiation of the corporate transformation, production volume increased sharply. This year serves as the structural breakpoint dividing the pre-transformation (2013–2019) and post-transformation (2020–2023) periods in this study. At the end of 2019, PT XYZ's management set a transformation in its long-term strategic plan through the 2025 vision, focusing on 3 pillars: Market Share Growth; stabilize operation; and New Winning Culture. Companies need good financial resources and management to achieve company growth, improve operational performance and financial performance.

Starting in 2020, since the establishment of organizational and business transformation through increased growth in overburden production, debt has increased in line with the increasing need for work equipment investment. The use of corporate debt is also caused by insufficient cash flow from operating activities to pay loans, interest expenses and investment in the purchase of work equipment.

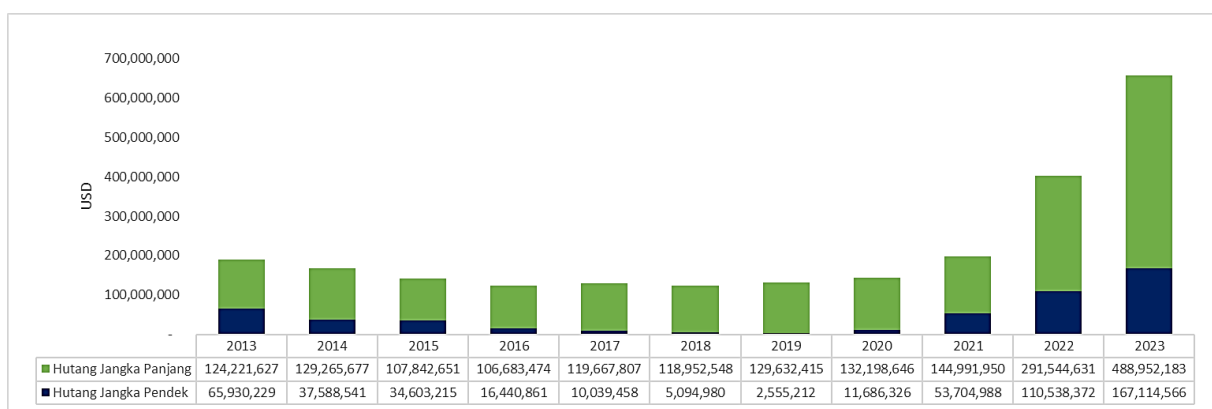


Figure 2. PT XYZ's Debt Position

Figure 2 shows that PT XYZ's total debt increased substantially following the transformation period, driven by the need to finance new production equipment. Based on financial statement data, the company's total liabilities grew significantly from the 2020–2023 period, coinciding with increased capital expenditure. Figure 3 further illustrates that while investment expenditure surged post-2020, operating cash flow remained constrained relative to the growing debt obligations, indicating a structural tension between investment expansion and debt servicing capacity.

Fluctuations in operating cash flow can have consequences for the company's debt. Harris and Roark (2019) revealed that high operating cash flow volatility has higher debt levels (Brusov & Filatova, 2023). The increasing burden of corporate loans will have the consequence of diminishing flexibility in financial decision-making because funding sources become limited to expand their business, spend capital, and pay off maturing debts (Kartikahadi et al., 2016; Tjun et al., 2026). The growing amount of debt will reduce financial flexibility in obtaining loans; the greater the company's financial flexibility, the smaller the risk of debt payment failure (Abdu, 2022; Roa, 2017). Ayaydin et al (2014) explained that companies can achieve financial flexibility by adopting a conservative debt policy and/or maintaining large cash reserves (Wu, Zhang, et al., 2024).

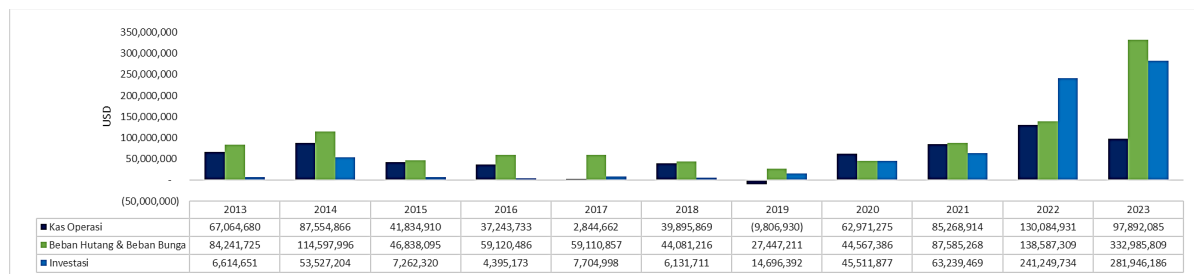


Figure 3. Cash, Debt and Investment Expense of PT XYZ

This research aims to study the company's financial performance before and after organizational transformation, as well as the influence of financial performance on financial flexibility which is expected to provide insight to company management in making strategic decisions to achieve company growth.

In the theory developed by Damodaran (2001), investment decisions and financing decisions are two important aspects that are interrelated in corporate financial management (Vernimmen et al., 2022). Investment decisions are concerned with how a company allocates resources to various assets or projects to generate future profits. Meanwhile, financing decisions relate to how the company obtains funds to finance the investment, for example through debt, equity, or a combination of both. This created a flexible theory in the field of finance that is now called financial flexibility.

Previous studies have extensively examined the relationship between financial performance and financial flexibility, although the findings remain inconclusive. Setianto and Kusumaputra (2017) found that greater financial flexibility enhances a firm's investment capacity while reducing the sensitivity of investment decisions to cash flow (Satrio, 2025). Similarly, Yung et al. (2015) reported that financially flexible firms are better able to finance investment opportunities with less dependence on internal cash generation (Li et al., 2025). Murti et al. (2016) demonstrated that leverage, free cash flow, and cash holdings significantly influence corporate financial flexibility (Muhsin & Indriani, 2024). In contrast, Hooshyar et al. (2017) found that financial leverage and the current ratio did not significantly affect financial flexibility, whereas profitability had a positive and significant effect (Karimi et al., 2023). Rapp et al. (2014) further showed that firms characterized by low cash holdings and high leverage tend to exhibit lower levels of financial flexibility (Li et al., 2025; Wang et al., 2025). More recently, Al-Dabbagh (2024), using the Autoregressive Distributed Lag (ARDL) approach in Iraq, concluded that higher financial flexibility contributes positively to firm value over the long term. These mixed empirical findings indicate that the determinants of financial flexibility remain context-dependent and warrant further investigation.

Despite the growing body of literature, several important research gaps remain. Most previous studies have relied on cross-sectional or panel data involving multiple firms, which limits the ability to capture the dynamic evolution of financial flexibility within a single company experiencing substantial organizational change. In addition, although the ARDL approach has been widely applied in macroeconomic and financial studies, its application to distinguish between the short-run and long-run determinants of financial flexibility in Indonesian mining service companies remains largely unexplored. Furthermore, previous studies generally focus on only a limited number of financial indicators, whereas the combined effects of profitability, liquidity, solvency, activity efficiency, and investment activity on financial flexibility have received little attention within a time-series framework.

Based on these gaps, this study investigates the determinants of financial flexibility using quarterly financial data from PT XYZ, an Indonesian mining service company that underwent a major corporate transformation in 2020. The novelty of this research lies in its integrated perspective, combining contextual, methodological, and empirical contributions. Contextually, the study provides evidence from a company undergoing a significant transformation, enabling an assessment of financial flexibility before and after organizational change. Methodologically, it applies the ARDL model to simultaneously estimate both short-run and long-run relationships, thereby overcoming the limitations of conventional static approaches. Empirically, the study examines the combined influence of profitability (ROA), liquidity (CR), solvency (DAR), activity efficiency (TATO), and investment activity on financial flexibility within a single-company time-series framework, offering evidence that has not previously been reported for the Indonesian mining services sector.

Financial Performance

The analysis of financial performance serves two primary purposes: first, to assess the effectiveness of financial management, particularly regarding liquidity, capital adequacy, and profitability for both the current and previous years; and second, to evaluate the company's capacity to leverage its assets for profit generation. In the context of financial performance analysis, financial ratios are classified into four categories: profitability ratios, liquidity ratios, solvency ratios, and activity ratios. The ratios employed in this study are presented in Table 1.

Table 1

Financial Performance Ratio

Ratio	Formula	References
Return on Asset (ROA)	Net Profit / Total Asset	Brigham and Houston (2018); Gallagher (2022)
Current Ratio (CR)	Current Asset / Current Liabilities	Brigham and Houston (2018); Gallagher (2022)
Debt to Asset Ratio (DAR)	(Current + Longterm Liabilities) / Total Assets	Ayaydin et al (2014); Wu (2024)
Total Asset Turn Over (TATO)	Net Revenue / Total Asset	Brigham and Houston (2018); Gallagher (2022)

Investment Activities

Investment is a number of funds or other resources that are used at this time, with the aim of obtaining a number of profits in the future (Ayuandiani et al., 2026; Tandelilin, 2010). The formulas that can be used to measure investment activity are:

Table 2

Investment Activity Ratio

Ratio	Formula	References
Investment Activity (INV)	Capital Expenditure (Investment) / Total Asset	Adhikari et al (2023)

Financial Flexibility

Cash Debt Coverage Ratio is one of the leverage index ratios that can provide financial flexibility information. This ratio indicates the company's ability to pay off its obligations through net cash from operating activities without liquidating assets used in operations (Muhsin & Indriani, 2024; Murti et al., 2016).

Table 3

Financial Flexibility Ratio

Ratio	Formula	References
Cash Debt Coverage Ratio (FLEX)	Operating Cash Flow / Total Liabilities	Murti (2016); Muhsin (2024)

METHOD

This research utilizes a quantitative time-series/longitudinal methodology, drawing on secondary financial data obtained from the audited annual and quarterly financial statements of PT XYZ for the timeframe spanning 2013 to 2023 (from Q1 2013 to Q4 2023, resulting in n=44 quarterly observations). The financial data were derived from the company's internal audited financial reports, which encompass consolidated statements of financial position, income statements, and cash flow statements that adhere to Indonesian Financial Accounting Standards (SAK). The pre-transformation phase is characterized by the years 2013 to 2019 (28 quarterly observations), while the post-transformation phase is identified as 2020 to 2023 (16 quarterly observations). The objective of this study is to assess financial performance prior to and following the transformation by analyzing the financial performance indicators: Return on Asset (ROA), Current Ratio (CR), Debt to Asset Ratio (DAR), and Total Asset Turnover (TATO). Additionally, to evaluate the impact of financial performance on financial flexibility, the Investment Activity (INV) variable is incorporated as an independent variable, with the Cash Debt Coverage Ratio (FLEX) serving as the dependent variable, representing one of the leverage index ratios that can offer insights into financial flexibility.

Research Hypothesis

The hypotheses are developed based on theoretical arguments from Financial Flexibility Theory (Damodaran, 2001; Vernimmen et al., 2022), Capital Structure Theory (Modigliani & Miller, 1958; Vernimmen et al., 2022), and the Trade-off Theory, as well as empirical evidence from the literature reviewed above. Specifically: (H1) profitability (ROA) is expected to have a significant positive effect on financial flexibility, as higher returns generate stronger internal cash flows; (H2) liquidity (CR) is hypothesized to have a positive effect, though prior evidence is mixed; (H3) solvency (DAR) is expected to have a significant negative effect, as higher leverage constrains borrowing capacity and flexibility; (H4) asset utilization efficiency (TATO) is hypothesized to have a positive effect through its impact on operating cash generation; and (H5) investment activity (INV) is hypothesized to have a negative effect in the short term due to cash outflows, but may become positive in the long term as productive investments generate returns.

H1 : ROA has a significant and positive effect on financial flexibility

H2 : CR has a significant and positive effect on financial flexibility

H3 : DAR has a significant and negative effect on financial flexibility

H4 : TATO has a significant and positive effect on financial flexibility

H5 : INV has a significant and negative effect on financial flexibility

Autoregressive Distributed Lag Regression Model

The ARDL model used in this study is as follows:

$$\text{FLEX}_t = a + \sum_{i=1}^{p_1} \rho_1 \text{FLEX}_{t-i} + \sum_{i=1}^{p_2} \rho_2 \text{ROA}_{t-i} + \sum_{i=1}^{p_3} \rho_3 \text{CR}_{t-i} + \sum_{i=1}^{p_4} \rho_4 \text{DAR}_{t-i} + \sum_{i=1}^{p_5} \rho_5 \text{TATO}_{t-i} + \sum_{i=1}^{p_6} \rho_6 \text{INV}_{t-i} + \partial \text{ECT}_{t-1} + \varepsilon_t$$

Description:

FLEX_t : Financial Flexibility period t

ROA_t : Return on Asset period t

CR _t	: Current Ratio period t
DAR _t	: Debt to Asset Ratio period t
TATTOO	: Total Asset Turn Over period t
INV _t	: Investment Activity period t
i	: Lag
a	: Constant or Intercept
p	: Optimal lag
ε _t	: Error Term

RESULTS AND DISCUSSION

Descriptive analysis was carried out to find out the general picture of the research results. The results of this analysis can be used to see financial performance before and after the transformation. The following are the descriptive results of the variables analyzed:

Table 4

Descriptive Test Results

Variable	Groups	N	Min	Max	Red	Median	Std Deviation
FLEX	Before	28	-0.105	0.104	0.018	0.021	0.040
	After	16	-0.029	0.102	0.027	0.024	0.040
LONG	Before	28	-0.133	0.035	-0.002	0.006	0.031
	After	16	-0.031	0.037	0.008	0.011	0.020
CR	Before	28	0.409	1.410	0.769	0.672	0.310
	After	16	0.559	1.096	0.791	0.771	0.149
DAR	Before	28	0.694	0.866	0.804	0.805	0.046
	After	16	0.758	0.860	0.824	0.829	0.031
TATTOO	Before	28	0.139	0.308	0.204	0.201	0.038
	After	16	4.164	0.351	0.260	0.256	0.036
INV	Before	28	0.000	0.006	0.002	0.002	0.002
	After	16	0.000	0.143	0.052	0.042	0.047

The results of the descriptive test of PT XYZ's financial performance for the 2013–2023 period show that on average all financial performance variables after the transformation have increased in terms of profitability, solvency, liquidity, and activity compared to before the transformation. The average value of financial flexibility after transformation of 0.027 was better than before transformation of 0.018. The profitability variable showed a better number, where the Return on Asset (ROA) rose to 0.008 from before the transformation –0.002. The Current Ratio (CR) increased to 0.791 from the previous 0.769. The Debt to Asset Ratio (DAR) increased to 0.824 from 0.804 previously, which put pressure on the company's debt management. Total Asset Turn Over (TATO) increased to 0.260 from the previous 0.204, indicating improved operational efficiency. Investment activity increased significantly to 0.052 from 0.002, in line with the need for capital expenditure to purchase equipment in an effort to increase production capacity.

Autoregressive Distributed Lag Regression Results

The Stationarity test is carried out first to find out the location of each variable around the average value with fluctuations that do not depend on time and variance. In this study, the method used was the Augmented Dickey Fuller (ADF) test using 1%, 5%, and 10% levels. The ADF test is carried out at the level and first difference level.

Table 5

Dickey Fuller Augmented Test (ADF)

Series	Prob (Level)	Prob (1st Difference)	Remarks
FLEX	0.000	0.000	Stationary
LONG	0.000	0.000	Stationary
CR	0.080	0.000	Stationary 1st Diff
DAR	0.296	0.000	Stationary 1st Diff
TATTOO	0.099	0.000	Stationary 1st Diff

Series	Prob (Level)	Prob (1st Difference)	Remarks
INV	0.236	0.000	Stationary 1st Diff

Optimal Lag Test

The optimal lag test is performed by looking at the value of each lag on the Akaike Information Criterion (AIC) criteria. This test aims to find out how long the influence between one variable is on another variable. The selection of the optimal lag is selected from the smallest AIC value.

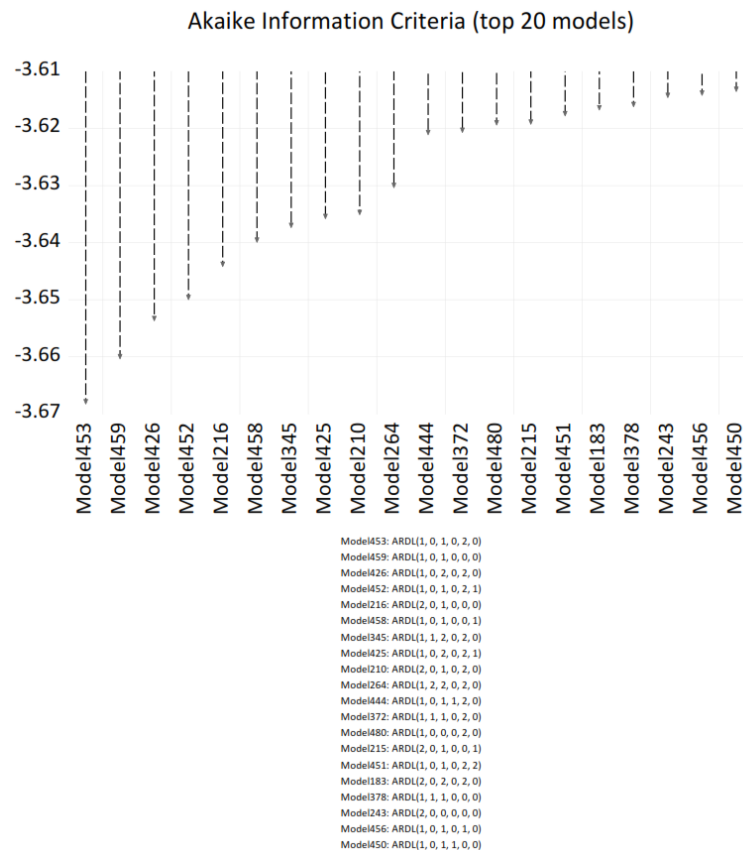


Figure 4. Information Intelligence Model (AIC)

Based on optimal lag testing, 20 of the best models were obtained. Looking at the Akaike Information Criterion (AIC) criteria, the lag length that produces the best model is ARDL 453 with lag (1,0,1,0,2,0).

Cointegration Test

The Cointegration test was conducted to see the long-term relationship between the variables studied. The test is carried out using the Bound Test approach, where the F-Statistics value is compared to the critical value that is compiled.

Table 5

Critical Value F-ARDL Bound Test

Critical Value Bounds	1%	5%	10%
I (0) Bounds	3.06	2.39	2.08
I (1) Bounds	4.15	3.38	3.00

Table 6

F-ARDL Bound Test Results

ARDL	F-Statistic	Results
(1,0,1,0,2,0)	8.97	There is cointegration

The results of the cointegration test based on *the bound test* approach showed an F-statistic value of 8.97, greater than the highest value (upper bound), which means that there is cointegration between the research variables.

Classic Assumption Test

The classical assumption test was carried out to test the suitability of the ARDL model, including the normality test, the autocorrelation test, and the heteroskedasticity test.

Table 7

Normality Test Results

	Jarque-Bera	P-Value
Jarque-Bera Normality Test	0.1695	0.9187

The test results showed that the p-value in the Jarque-Bera normality test was 0.91 or greater than 0.05, so it can be concluded that the residual in this model is normally distributed.

Table 8

Autocorrelation Test Results

F-Statistic	Obs*R-squared	Prob. F(2.30)	Prob Chi-Square (2)
0.4773	1.2953	0.6251	0.5233

The autocorrelation test showed a Chi-Square Prob value of 0.52, greater than 0.05. This explains that the ARDL model used is free from autocorrelation.

Table 9

Heteroskedasticity Test Results

	F-Statistic	Prob Chi-Square (9)
Breusch-Pagan-Godfrey	1.0331	0.7525

The results of the heteroskedasticity test showed a prob-chi-square value of 0.75, greater than 0.05, which explains that this model is free from heteroskedasticity.

Stability Test

The results of the CUSUM and CUSUMSQ plots from the model's recursive estimation indicate the stability of the variables in the period used in the study, as shown in the following Figure 5 and Figure 6.

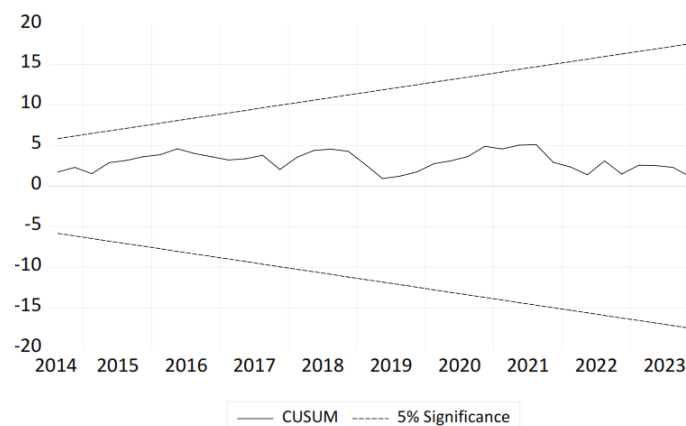


Figure 5. CUSUM Plot

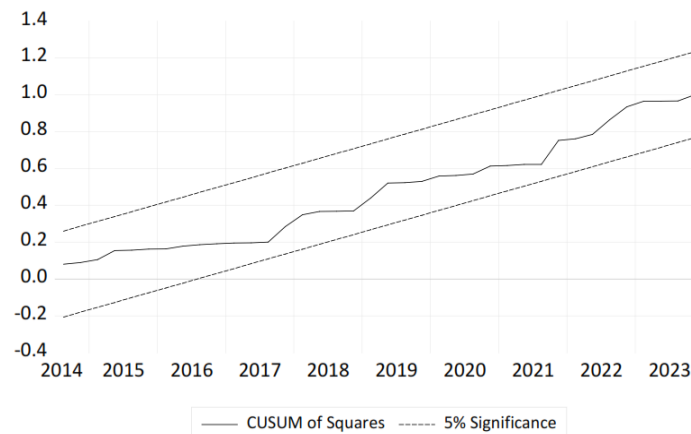


Figure 6. Plot CUSUM of Squares

Short-Term and Long-Term ARDL Estimation Results

Based on the results of the cointegration test with the ARDL approach, the variables that affect financial flexibility have a short-term to long-term balance.

Table 10

Short-Term Estimate of ARDL (1,0,1,0,2,0)

Variable	Coefficients	Std. Error	t-Statistics	Prob.*
Y_FLEX(-1)	-0.048867	0.154310	-0.316679	0.7535
X1_ROA	0.674218	0.258020	2.613043	0.0136 **
X2_CR	-0.129898	0.055053	-2.359493	0.0246 **
X2_CR(-1)	0.089363	0.049624	1.800805	0.0812
X3_DAR	-0.280561	0.137830	-2.035562	0.0501 *
X4_TATO	0.345211	0.233060	1.481213	0.1483
X4_TATO(-1)	0.104854	0.240526	0.435935	0.6658
X4_TATO(-2)	-0.342925	0.185243	-1.851215	0.0734
X5_INV	0.472046	0.201270	2.345336	0.0254 **
C	0.230697	0.109209	2.112444	0.0425 **
R-squared	0.3926	Mean dependent var	0.021452	
Adjusted R-squared	0.2218	S.D. dependent var	0.039574	
S.E. of regression	0.034910	Akaike info criterion	-3.667825	
Sum squared resid	0.038999	Schwarz criterion	-3.254094	
Log likelihood	87.02432	Hannan-Quinn crister.	-3.516176	
F-statistic	2.298555	Durbin-Watson stat	1.965133	
Prob(F-statistic)	0.040318			

Remarks: ** significant at $\alpha = 5\%$; * significant at $\alpha = 10\%$

In this study, the ARDL model (1,0,1,0,2,0) showed that Return on Asset, Current Ratio, Debt to Asset Ratio, and Investment Activity had a significant effect in the short term, while Total Asset Turn Over had no significant effect. An R-squared value of 0.3926 indicates that the model (all independent variables collectively) can explain approximately 39.26% of the variation in financial flexibility (FLEX), the rest is explained by other variables outside the equation.

Table 11

ARDL Long-Term Estimation

Variable	Coefficients	Std. Error	t-Statistics	Prob.
X1_ROA	0.642806	0.277365	2.317548	0.0270 **
X2_CR	-0.038647	0.043617	-0.886051	0.3822
X3_DAR	-0.267490	0.130140	-2.055397	0.0481 **
X4_TATO	0.102148	0.206106	0.495609	0.6236
X5_INV	0.450054	0.189343	2.376924	0.0236 **

Variable	Coefficients	Std. Error	t-Statistics	Prob.
C	0.219949	0.103753	2.119936	0.0419 **

Remarks: ** significant at $\alpha = 5\%$; * significant at $\alpha = 10\%$

Based on the results of the long-term model estimate in Table 11, the independent variables that significantly affect financial flexibility are Return on Asset, Debt to Asset Ratio, and Investment Activity. The Current Ratio and Total Asset Turn Over variables do not have a significant effect in the long run.

Table 12

Summary of Short-Term and Long-Term Analysis Results

Independent Variables	Short Term	Long-Term
Return on Asset	Positive influence	Positive influence
Current Ratio	Negative effects	Has no effect
Debt to Asset Ratio	Negative effects	Negative effects
Total Asset Turn Over	Has no effect	Has no effect
Investment Activities	Positive influence	Positive influence

Discussion

The Effect of Return on Assets on Financial Flexibility

The results of the analysis show that the Return on Asset (ROA) variable has a significant and positive influence on financial flexibility in both the short and long term, with coefficients of 0.674218 (short-term) and 0.642806 (long-term). This means that any increase in ROA of 1% will increase financial flexibility by 0.674218% in the short term and 0.642806% in the long term.

These findings are consistent with fundamental financial logic: companies that are able to efficiently generate returns on their assets will have stronger cash flow, so their ability to meet debt obligations, measured through the Cash Debt Coverage Ratio, also increases. These results are in line with the research of Hooshyar et al (2017) which found that profitability has a positive and significant impact on financial flexibility in companies listed on the Tehran Stock Exchange (Karimi et al., 2023). These findings are also reinforced by Nguyen's (2025) research that examined companies in Southeast Asia and found that profitability is a key determinant of financial flexibility; Companies with higher ROAs tend to have larger internal funding reserves thus reducing dependence on external debt. In addition, research by Wu et al (2024)¹ shows that financial flexibility driven by profitability performance positively improves the overall performance of the company through better investment efficiency.

From a theoretical perspective, this finding is consistent with Financial Flexibility Theory (Damodaran, 2001; Vernimmen et al., 2022), which posits that internally generated returns reduce dependency on external financing and enhance a company's ability to fund future investments and meet obligations. Additionally, Capital Structure Theory (Modigliani & Miller, 1958; Vernimmen et al., 2022) and the Trade-off Theory suggest that profitable firms carry lower effective cost of financial distress, allowing them to maintain higher leverage capacity, which, paradoxically, can enhance flexibility when managed prudently. For PT XYZ, the increase in post-transformation ROA from -0.002 to 0.008 descriptively indicates an increase in operational efficiency following the transformation. However, the relatively small value of ROA shows that efforts to increase profitability need to be continued so that its contribution to financial flexibility is more significant.

The Effect of Current Ratio on Financial Flexibility

The analysis of liquidity variables indicates that the Current Ratio (CR) exerts a significant negative impact in the short term, evidenced by a coefficient of -0.129898. However, in the long term, CR does not significantly affect the financial flexibility of the company.

The negative influence of CR in the short term can be explained through the characteristics of the mining services industry. An increase in current assets sourced from short-term receivables, spare parts inventories, or retained cash does not necessarily reflect an overall improvement in long-term debt repayment. In fact, in the context of PT XYZ, the increase in CR stemming from additional receivables can actually reflect collection issues that have the potential

to weaken operating cash flow, a key component of FLEX.

These findings are consistent with Hooshyar *et al* (2017) who also found that the current ratio does not have a significant impact on financial flexibility in companies in Iran (Karimi *et al*, 2023). This is also in line with the argument of Rapp *et al* (2014) that high short-term liquidity is not necessarily directly proportional to financial flexibility, as flexibility is more determined by a company's ability to access funding sources on a sustainable basis (Li *et al*, 2025). Thus, the management of PT XYZ should not only focus on increasing CR, but also pay attention to the quality of current assets and the efficiency of converting receivables into cash. The long-run insignificance of CR is further consistent with the Trade-off Theory perspective: in the long run, financial flexibility is determined more by the company's fundamental capacity to generate operating cash flows and access capital markets, both of which are more closely tied to profitability and leverage than to short-term liquidity ratios (Li *et al*, 2025; Rapp *et al*, 2014). Short-term liquidity fluctuations, captured by the Current Ratio, tend to normalize over longer horizons, explaining their loss of statistical significance in the ARDL long-run model.

The Effect of Debt to Asset Ratio on Financial Flexibility

The results of the analysis of solvency variables show that the Debt to Asset Ratio (DAR) has a significant and negative effect on the company's financial flexibility in the short term with a coefficient value of -0.280561 . Similarly, in the long term, DAR has a significant negative influence with a coefficient value -0.264790 . This means that a one-unit increase in the DAR ratio is associated with a decrease in the FLEX ratio of 0.280561 units in the short term and 0.264790 units in the long term, *ceteris paribus*. As with other variables, these coefficients reflect unit-to-unit relationships between ratio-level variables, not percentage-to-percentage elasticities.

This negative relationship between DAR and financial flexibility is in line with the theory developed by Ayaydin *et al* (2014), which states that companies with high levels of leverage tend to have limited borrowing capacity so that their flexibility in accessing external funding is reduced (Wu, Zhang, *et al*, 2024). These results are also consistent with the findings of Rapp *et al* (2014) that companies with high leverage ratios have lower levels of financial flexibility (Li *et al*, 2025). The value of PT XYZ's DAR which increased from 0.804 (before the transformation) to 0.824 (after the transformation) indicates that the expansion of production financed by debt has put pressure on the company's financial capacity. This condition needs serious attention from management so that the increase in debt burden does not erode the financial flexibility needed for future business growth.

The Effect of Total Asset Turn Over on Financial Flexibility

The results of the analysis of activity variables show that Total Asset Turn Over (TATO) does not have a significant influence on the company's financial flexibility both in the short and long term.

The insignificance of TATO can be understood from the characteristics of the mining services industry which is *capital intensive*. In this industry, companies have to manage assets in the form of heavy equipment that are very valuable, so the overall asset turnover tends to be slow. The increase in revenue in the short term does not directly increase the net operating cash flow that is a component of FLEX, especially when accompanied by an increase in operating expenses and debt expenses. These findings are in line with Al-Dabbagh's (2024) research which in the context of companies in developing countries also did not find a significant relationship between activity ratios and financial flexibility. This suggests that asset use efficiency alone is not enough to improve financial flexibility; Adequate profitability is required from each round of such assets.

The Effect of Investment Activities on Financial Flexibility

The results of the analysis of the variables of Investment Activity show a significant and positive influence on financial flexibility both in the short and long term, with coefficients of 0.472046 (short-term) and 0.450054 (long-term). This means that a one-unit increase in the Investment Activity ratio is associated with an increase in the FLEX ratio of 0.472046 units in the short term and 0.450054 units in the long term, holding other variables constant. These coefficients represent unit-level relationships between ratio variables, not elasticities.

These results confirm that the investment made by PT XYZ in the form of the purchase of

production equipment has a positive impact on the company's ability to generate operating cash flow. Theoretically, investment in productive assets will increase production capacity and revenue, which in turn strengthens a company's operating cash flow and improves its ability to pay off debt obligations. These findings are in line with the research of Setianto and Kusumaputra (2017) which found that financial flexibility increases investment capabilities, and conversely, productive investment helps strengthen a company's financial position (Satrio, 2025). Research by Cherkasova and Kuzmin (2018) also shows that financially flexible companies tend to allocate more to investment expenditure and undertake more effective investment policies (Wu, Zhang, et al., 2024).

For PT XYZ, this condition confirms that the strategy of expanding post-transformation production capacity through increased capital expenditure is the right step. However, management needs to ensure that investments are made selectively and measurably so as not to worsen the debt position (DAR) which is already high enough, so that the balance between investment activities and financial flexibility can be maintained in a sustainable manner.

CONCLUSION

This study demonstrates that PT XYZ's corporate transformation has successfully improved the company's overall financial performance, as reflected in higher profitability, liquidity, operational efficiency, investment activity, and financial flexibility compared with the pre-transformation period, despite the concurrent increase in leverage resulting from business expansion. The ARDL analysis further confirms that profitability (ROA) is the most consistent positive determinant of financial flexibility in both the short and long run, while the Debt to Asset Ratio (DAR) exerts a significant negative effect, indicating that excessive reliance on debt constrains the company's financial flexibility. Investment activity contributes positively to financial flexibility, whereas the Current Ratio (CR) is significant only in the short run and Total Asset Turnover (TATO) does not exhibit a significant influence over either time horizon.

The findings extend the financial flexibility literature by providing empirical evidence from a single-company time-series analysis of a corporate transformation in Indonesia's mining services industry using the ARDL approach, enabling the distinction between short-run and long-run relationships. From a managerial perspective, the results suggest that sustaining financial flexibility requires balancing profitable operations, productive capital investment, and prudent debt management. Future studies are encouraged to validate these findings using multi-company or panel datasets, incorporate macroeconomic and ESG-related variables, and examine financial flexibility across different industries or countries to improve the generalizability of the results.

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AUTHOR CONTRIBUTION STATEMENT

Didit Pramadi, Noer Azam Achsani, and Tony Irawan contributed to the conceptualization, methodology, data analysis, interpretation of results, and preparation of the manuscript. All authors have read and agreed to the published version of the manuscript.

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