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ANALYZING THE EFFECT OF LIQUIDITY AND SOLVENCY RATIOS ON PROFITABILITY AT PT ASTRA INTERNATIONAL TBK (2015–2023)

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Abstract

This study investigates the impact of liquidity, as represented by the Current Ratio (CR), and solvency, as measured by the Debt to Asset Ratio (DAR), on profitability, proxied by Return on Assets (ROA), in the case of PT Astra International Tbk during the 2015–2023 period. Employing a quantitative approach with a descriptive method, this research analyzes secondary data sourced from the company's quarterly financial reports. Multiple linear regression analysis is used to examine both the individual and combined effects of liquidity and solvency on profitability.

The findings reveal that CR has a negative and statistically significant effect on ROA, indicating that higher liquidity may correspond to lower profitability. This suggests that excessive current assets could reflect underutilized resources that are not optimally contributing to income generation. Similarly, DAR also demonstrates a negative and significant relationship with ROA, implying that higher reliance on debt may reduce profitability due to the burden of interest and other financial obligations. Collectively, liquidity and solvency are shown to significantly influence profitability.

These results highlight the importance of maintaining a strategic balance between current assets and debt to achieve sustainable financial performance. This study is limited to a specific period and a single company within the automotive and diversified industry, which may affect the generalizability of the conclusions. Future research is encouraged to explore additional financial indicators or conduct comparative studies across sectors to enhance the breadth and applicability of the findings.

Article Info

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1. Introduction

The manufacturing industry plays an important role in driving productivity and creating quality jobs in Indonesia. Optimizing this sector requires conducive

regulations, adequate resources, a healthy business climate, and the availability of competent workers. According to Amalia Adininggar Widyasanti, Deputy for Economic Affairs of the Ministry of PPN/Bappenas, the industrial sector makes a major contribution to the economy through a high multiplier effect, thanks to its linkages with the upstream (backward linkage) and downstream (forward linkage) sectors.

Data from the Central Statistics Agency (BPS) shows that in 2022, Indonesia's Gross Domestic Product (GDP) reached IDR 19,588.4 trillion, with the manufacturing sector contributing IDR 3,591.8 trillion or 18.34% of the total GDP. Together with the trade, vehicle repair, and agricultural sectors, this sector dominates the national economy. The manufacturing industry includes various sub-sectors such as food and beverages, pharmaceuticals, chemicals, metals, textiles, clothing, and automotive. Some of the large companies that contribute to this sector include PT Astra International, Tbk., PT Indofood Sukses Makmur, Tbk., and PT Unilever Indonesia, Tbk.

PT Astra International, Tbk. is one of the largest manufacturing companies with diverse business lines, including automotive. Astra produces, assembles, and distributes motor vehicles for brands such as Toyota, Daihatsu, Isuzu, Peugeot, Honda, as well as BMW and Lexus. As the company with the largest number of workers in Indonesia, namely 134,787 people, Astra also faces challenges in the automotive industry, especially with the presence of battery-based vehicles from competitors such as Hyundai and Wuling.

Managing a large-scale company like Astra requires professional workers in various fields, including marketing, human resource management, and finance. In finance, efficient management of income and expenses is essential to ensure optimal company performance. Financial reports, such as balance sheets and profit and loss, are important indicators for assessing the sustainability and success of a company in facing competition in the industry. In the company PT. Astra International, Tbk, which is the subject of this study, the company's performance in generating profits over the past 9 years (in billions of rupiah) is illustrated in the following graph:

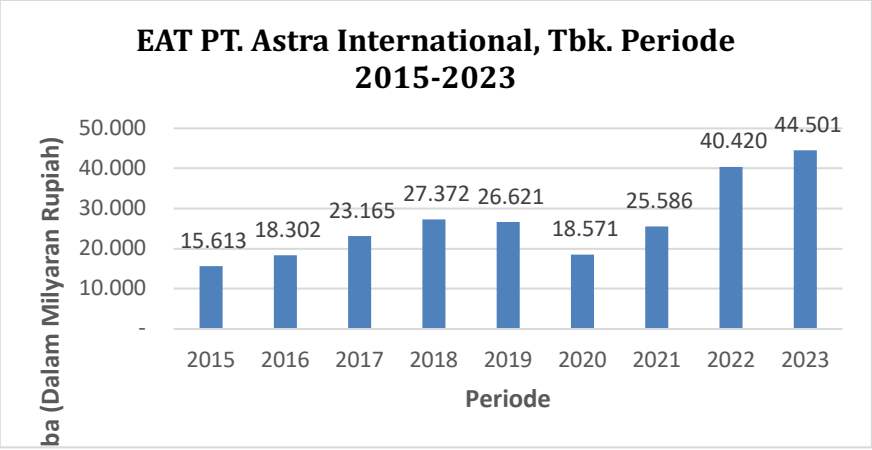

Figure 1. EAT Graph of PT. Astra International, Tbk. Period 2015-2023

*Source: Income statement of PT. Astra International, Tbk.*Based on the data above, it can be seen that the company's performance is reflected through profit achievements that tend to increase from year to year, except in 2019 and 2020 there was a decline due to the Covid-19 pandemic. However, this situation did not last long because in 2021 there was an increase in profit again and in 2022 the company experienced a significant increase in profit.

Table 1. Level of increase or decrease in EAT ASII for the period 2015-2023

Periode	Laba tahun berjalan (Dalam milyaran Rupiah)	Kenaikan atau Penurunan
2014	22.125	
2015	15.613	-29,43%
2016	18.302	17,22%
2017	23.165	26,57%
2018	27.372	18,16%
2019	26.621	-2,74%
2020	18.571	-30,24%
2021	25.586	37,77%
2022	40.420	57,98%
2023	44.501	10,10%

Source: Income statement of PT. Astra International, Tbk.

The financial data presented indicate that in 2015, PT Astra International Tbk experienced a 29.43% decline in net income, primarily due to weakening global commodity markets and reduced domestic consumer purchasing power. Between 2016 and 2018, net profit increased steadily, driven by strong performance across the automotive, heavy equipment, mining, and financial services sectors. In 2017, a rebound in coal prices notably boosted demand for heavy equipment, resulting in a profit of IDR 23.165 trillion. However, in 2020, net profit dropped sharply by 30.24% to IDR 18.571 trillion, largely due to the adverse impacts of the COVID-19 pandemic across all major business units. A recovery emerged in 2021, with net profit rising by 37.77% to IDR 25.586 trillion. This positive trajectory continued into 2022, when the company recorded its highest-ever net profit of IDR 40.420 trillion—an increase of 57.98%—as a result of the post-pandemic economic rebound and elevated commodity prices. In 2023, profits continued to rise by 10.10%, supported by strong results in the automotive and financial services sectors, despite economic headwinds in the second half of the year.

Over the last several years, PT Astra International Tbk has demonstrated financial resilience, even in the face of significant external pressures such as global market volatility and the COVID-19 crisis. However, examining net profit alone does not fully capture the company's overall financial health. This study, therefore, focuses on investigating how liquidity—measured using the Current Ratio (CR)—and solvency—measured using the Debt to Asset Ratio (DAR)—affect profitability, which is represented by Return on Assets (ROA).

Prior research has yielded varying conclusions regarding the relationships among liquidity, solvency, and profitability, highlighting the need for continued empirical investigation. The CR is utilized in this study as it encompasses total current assets and offers a broad perspective on liquidity. Meanwhile, DAR is employed to represent the company's capital structure, particularly the extent of asset financing through debt—a relevant metric for assessing large firms like Astra.

Although Astra has not exhibited liquidity or solvency issues in recent years, the company's ability to maintain profitability across diverse economic conditions presents a noteworthy case for analysis. This research seeks to provide valuable insights into how internal financial strategies can contribute to long-term profitability and operational stability in large-scale enterprises. Based on these considerations, the study is titled: **"The Effect of Liquidity and Solvency on Profitability at PT Astra International Tbk, Period 2015–2023."**

Hypothesis Development

Financial performance analysis plays a critical role in evaluating a company's efficiency and stability. Among the various tools used, **financial ratios**—particularly those related to **liquidity,**

solvency, and profitability—are essential in understanding how well a company manages its financial resources (Kasmir, 2015; Harahap, 2015).

Liquidity and Profitability

Liquidity reflects a company's ability to fulfill its short-term obligations using its current assets (Van Horne & Wachowicz, 2014; Seto et al., 2023). A common measure of liquidity is the **Current Ratio (CR)**, which considers all current assets relative to current liabilities. While higher liquidity is generally viewed as a sign of financial health, some studies argue that excessively high liquidity may indicate **inefficient use of resources**, potentially leading to lower profitability (Putri et al., 2019). This is supported by Sanjaya and Sipahutar (2019), who found a significant relationship between CR and ROA, implying that maintaining an optimal liquidity level is crucial for profit generation. Based on this reasoning, the following hypothesis is proposed:

H1: Liquidity (Current Ratio) has a significant effect on profitability (Return on Assets).

Solvency and Profitability

Solvency indicates the proportion of a company's assets financed through debt and reflects the firm's long-term financial stability (Hidayat, 2018; Kasmir, 2014). The **Debt to Asset Ratio (DAR)** measures the extent of a company's reliance on debt. A high DAR may indicate financial risk due to increasing interest obligations, potentially reducing net income and profitability (Putri et al., 2019). However, moderate use of debt can be beneficial if the borrowed funds are invested effectively to generate higher returns (Kurniawati, 2021). These mixed outcomes suggest the need to re-examine the influence of solvency on profitability, especially in large companies like PT Astra International Tbk. Therefore, the following hypothesis is formulated:

H2: Solvency (Debt to Asset Ratio) has a significant effect on profitability (Return on Assets).

Liquidity and Solvency Simultaneously Affecting Profitability

While liquidity and solvency individually provide insight into short-term and long-term financial stability, analyzing their **combined effect** on profitability offers a more comprehensive perspective. Effective financial management involves maintaining a balance between holding sufficient current assets (for liquidity) and managing debt levels (for solvency). Prior studies (e.g., Kurniawati, 2021; Putri et al., 2019) emphasize the joint contribution of liquidity and solvency to financial outcomes, suggesting that both factors, when managed optimally, support the generation of sustainable profits. Hence, the following hypothesis is proposed:

H3: Liquidity (Current Ratio) and Solvency (Debt to Asset Ratio) simultaneously have a significant effect on profitability (Return on Assets).

A. Framework of Thought

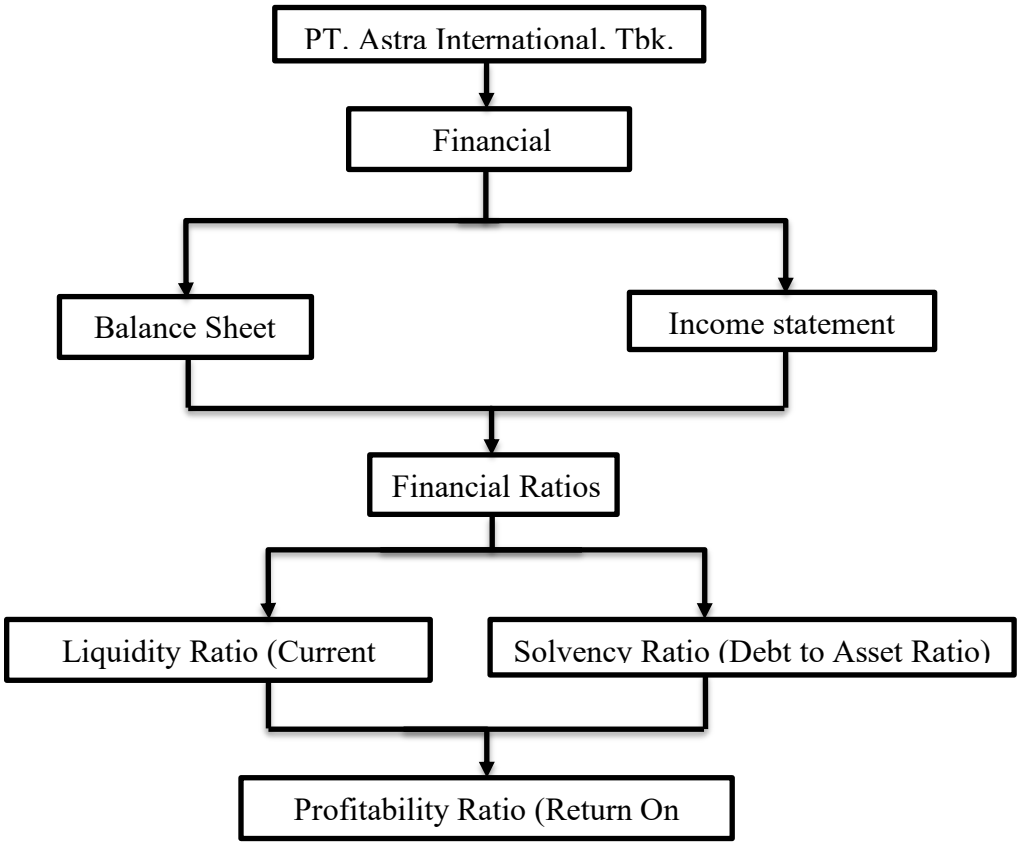

Figure 2. Research Design Scheme

2. Research Methods

This research adopts a **quantitative method** with a **descriptive analytical approach**. The study was initiated in june 2024, following the approval of the final project title by the academic supervisor and head of the study program, and continued until the research was completed. The scope of the study covers financial data from the **first quarter of 2015 through the fourth quarter of 2023**. The object of the study is **pt astra international tbk**, a company operating in the automotive sub-sector and listed on the indonesia stock exchange (idx). The data analyzed consist of **quarterly financial statements**, including balance sheets and income statements, allowing for an examination of financial performance across four quarters each year. The **population** in this study comprises all quarterly financial reports released by pt astra international tbk during the 2015–2023 period. The **sample**, selected using purposive sampling, consists of **quarterly financial reports** for eight years (2015–2023) that were considered relevant and representative of the company's financial conditions in terms of **liquidity, solvency, and profitability**. Data were collected through **secondary sources**, obtained directly from the company's official website at https://www.astra.co.id/investorrelations?section=quarterly and the **indonesia stock exchange** website at www.idx.co.id. The following section presents the **operational definitions of the variables** used in the analysis.

Table 2. Operationalization of Variables

Variables	Operational definition	Sub variables	Indicator	Scale
Liquidity (X1)	This ratio assesses a company's capacity to fulfill its short-term obligations by comparing its current assets to current liabilities (Kasmir, 2017).	Current Ratio (CR)	$\frac{\text{Aset Lancar}}{\text{Utang Lancar}} x\ 100\%$	Ratio
Solvency (X2)	This ratio indicates the proportion of a company's total assets that are financed through debt, providing insight into the firm's long-term financial structure (Kasmir, 2019).	Debt to Asset Ratio (DAR)	$\frac{\text{Total Utang}}{\text{Total Aset}} x100\%$	Ratio
Profitability (Y)	Profitability reflects the company's ability to generate earnings relative to its sales, asset base, and equity capital (Sartono, 2022).	Return On Assets (ROA)	$\frac{\text{Laba bersih setelah pajak}}{\text{Total aktiva}} x\ 100\%$	Ratio

The data obtained will be processed in several stages, beginning with a descriptive statistical analysis of financial ratios, including the Current Ratio (CR), Debt to Asset Ratio (DAR), and Return on Assets (ROA). This initial step aims to provide an overview of the distribution and characteristics of the data. Following the descriptive analysis, classical assumption tests will be conducted to ensure the validity of the regression model, which will then be followed by hypothesis testing to examine the relationships between variables.

3. Results And Discussion

A. Result

1. Brief History of the Company

PT Astra International Tbk was established in Jakarta in 1957 under the name Astra International Inc. Initially operating as a general trading company, Astra experienced significant growth and became a publicly listed company on the Indonesia Stock Exchange in 1990, trading under the ticker symbol **ASII**. Over the course of more than six decades, Astra has demonstrated resilience in adapting to various economic dynamics, including the COVID-19 pandemic and ongoing technological disruptions.

In response to global sustainability trends, Astra introduced the **Astra 2030 Sustainability Aspirations** in 2022, focusing on three pillars: business portfolio, human capital development, and social contribution. As one of Indonesia's largest and most diversified conglomerates, Astra is not only committed to delivering high-quality products and services but also actively engages in corporate social responsibility (CSR) initiatives. These include programs in education, environmental sustainability, support for small and medium enterprises (SMEs), and public health.

Through these efforts, Astra has reinforced its reputation as a company that contributes meaningfully to national development and the welfare of the Indonesian society.

2. Data Analysis

Descriptive Statistical Analysis

Table 3 presents the results of descriptive statistical analysis for the three key variables in this study: liquidity (measured by Current Ratio), solvency (measured by Debt to Asset Ratio), and profitability (measured by Return on Assets). The total number of observations is 36, representing quarterly financial data from 2015 to 2023.

Liquidity (CR): The Current Ratio (CR) has a minimum value of **1.101** and a maximum of **1.583**. The mean value is **1.36044**, with a standard deviation of **0.137205**. These results indicate that, on average, the company maintains a relatively strong ability to cover its short-term obligations, although variation among periods is relatively low.

Solvency (DAR): The Debt to Asset Ratio (DAR) ranges from a minimum of **0.409** to a maximum of **0.505**, with a mean of **0.45908** and a standard deviation of **0.031059**. This suggests that approximately 46% of the company's assets are financed through debt, and the relatively low standard deviation reflects consistent debt management practices over time.

Profitability (ROA): The Return on Assets (ROA) recorded a minimum value of **0.013** and a maximum of **0.100**, with an average of **0.04969** and a standard deviation of **0.023827**. These figures imply that the company's ability to generate profit from its assets remains moderate, with some fluctuation throughout the observed period.

Table 3. Results of Descriptive Statistical Analysis

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
CR	36	1.101	1,583	1.36044	.137205
DAR	36	.409	.505	.45908	.031059
ROA	36	.013	.100	.04969	.023827
Valid N (listwise)	36				

Source: Data processed with SPSS 25

Overall, the descriptive statistics provide an initial overview of the company's financial condition, which will be further examined through inferential statistical analysis in the following sections.

Classical Assumption Test

Normality Test

The results of the One-Sample Kolmogorov-Smirnov test presented in Table 4 indicate that the residuals have a significance value (Asymp. Sig. 2-tailed) of 0.200. Since this value exceeds the commonly used alpha level of 0.05, it can be concluded that the residuals are normally distributed.

This finding implies that the normality assumption required for linear regression analysis is fulfilled. The distribution of residuals does not significantly deviate from normality, which ensures the validity of subsequent inferential statistical procedures such as hypothesis testing and regression analysis.

Table 4. Results of the One-Sample Kolmogorov Smirnov Normality Test

One-Sample Kolmogorov-Smirnov Test

		Unstandardized Residual
N		36
Normal Parametersa,b	Mean	.0000000
	Std. Deviation	.02090189
Most Extreme Differences	Absolute	.108
	Positive	.108
	Negative	-.104
Test Statistics		.108
Asymp. Sig. (2-tailed)		.200c,d

a. Test distribution is Normal.
b. Calculated from data.
c. Lilliefors Significance Correction.
d. This is a lower bound of the true significance.

Source: Data processed with SPSS 25

Multicollinearity Test

Table 5. Multicollinearity Test Results

Coefficients

Model		Collinearity Statistics	
		Tolerance	VIF
1	(Constant)		
	CR	.306	3.266
	DAR	.306	3.266

a. Dependent Variable: ROA

Source: Data processed with SPSS 25

The results of the multicollinearity test reveal that each independent variable in the regression model has a **tolerance value of 0.306**, which exceeds the commonly accepted threshold of 0.10. This indicates that the variables do not exhibit problematic levels of multicollinearity. Furthermore, the **Variance Inflation Factor (VIF)** for each variable is **3.266**, which is well below the critical value of 10.00. This further confirms the absence of multicollinearity among the independent variables.

Based on these findings, it can be concluded that the regression model is free from multicollinearity issues. As a result, the estimated regression coefficients are considered stable and reliable for interpretation, as there is no significant linear correlation between the explanatory variables.

Heteroscedasticity Test

The results of the Glejser test indicate that the regression model satisfies the assumption of homoscedasticity. As shown in the table, both independent variables have significance values greater than the 0.05 threshold. Specifically, the **liquidity variable (measured by CR)** has a significance value of **0.994**, and the **solvency variable (measured by DAR)** has a significance value of **0.858**.

These results suggest that there is no evidence of heteroscedasticity in the model. In other words, the variance of the residuals remains constant across different levels of the independent variables. This supports the validity of the regression estimates and confirms that the assumption of equal variance (homoscedasticity) has been met.

Table 6. Results of Heteroscedasticity Test Using Glejser

Coefficients

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	.026	.079		.335	.740
	CR	.000	.024	.002	.008	.994
	DAR	-.019	.107	-.057	-.181	.858

a. Dependent Variable: ABS_RES

Source: Data processed with SPSS 25

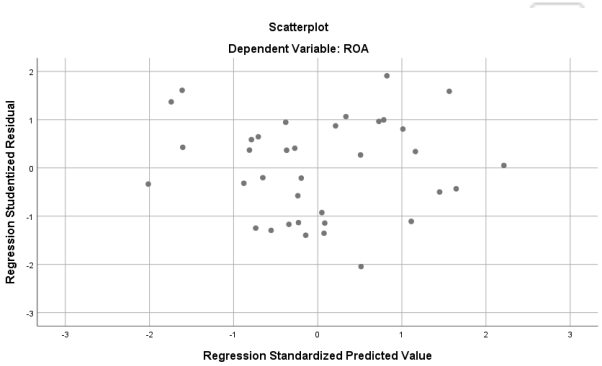

Figure 3. Results of Heteroscedasticity Test with Scatterplot Graph

Source: Data processed with SPSS 25

In addition to the Glejser test, a scatterplot analysis was also performed to visually assess the presence of heteroscedasticity. The scatterplot reveals that the residuals are randomly dispersed and evenly distributed around the horizontal axis (zero line), without forming any discernible pattern.

This random distribution of residuals indicates that the variance of the errors remains constant across different levels of the independent variables. Therefore, it can be concluded that the regression model fulfills the assumption of **homoscedasticity**, meaning there is no indication of heteroscedasticity. This supports the reliability of the regression results and strengthens the validity of the model used in this study.

Autocorrelation Test

Table 7. Durbin-Watson Autocorrelation Test Results

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.480a	.230	.184	.021526	1,868

a. Predictors: (Constant), DAR, CR

b. Dependent Variable: ROA

Source: Data processed with SPSS 25

To evaluate the assumption of residual independence, the Durbin-Watson (DW) test was applied. The test resulted in a DW value of **1.868**. According to the Durbin-Watson table at a significance level of 5%, with a sample size (N) of 36 and two independent variables (k = 2), the lower bound (dL) is **1.354** and the upper bound (dU) is **1.587**. The calculated DW value lies within the range:

1.587 < 1.868 < 2.413 (where 4 − dU = 2.413)

This range confirms that the DW value falls within the zone of **no autocorrelation**, based on the rule:

dU < DW < 4 − dU

Thus, it can be concluded that the regression model meets the assumption of **no autocorrelation**, indicating that the residuals are independent and not correlated across observations.

Multiple Linear Regression Analysis

Table 8. Results of Multiple Linear Regression Analysis

Coefficients

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	.537	.156		3.450	.002
	CR	-.145	.048	-.837	-3.033	.005
	DAR	-.632	.212	-.823	-2.983	.005

a. Dependent Variable: ROA

Source: Data processed with SPSS 25

Based on the regression output, the estimated equation for the relationship between the independent variables and Return on Assets (ROA) is formulated as follows:

ROA = 0.537 − 0.145(CR) − 0.632(DAR) + e

The constant value of 0.537 indicates that if both the Current Ratio (CR) and the Debt to Asset Ratio (DAR) are assumed to be zero, the ROA would be predicted at 0.537. While this is a theoretical value, it serves as the baseline profitability level in the absence of the independent variables.

The regression coefficient for CR is -0.145, which signifies a negative relationship between liquidity and profitability. This result implies that for every one-unit increase

in the Current Ratio, the ROA is expected to decrease by 0.145, assuming the DAR remains unchanged. This inverse relationship suggests that an increase in current assets relative to current liabilities might not translate into improved profitability, possibly due to idle or underutilized current assets.

Similarly, the coefficient for DAR is -0.632, which also indicates a negative association between solvency and profitability. An increase of one unit in the Debt to Asset Ratio is projected to decrease the ROA by 0.632, holding other variables constant. This finding implies that a higher reliance on debt financing reduces the company's ability to generate returns from its assets, likely due to increased financial burdens such as interest payments.

The regression model also includes an error term (e), which accounts for other factors affecting ROA that are not captured by the CR and DAR variables. This residual component acknowledges the presence of additional variables that could influence profitability, including market conditions, asset turnover, management efficiency, or external macroeconomic factors.

Overall, the results of this regression analysis provide insight into how liquidity and solvency influence the profitability of PT Astra International Tbk during the study period. The negative coefficients observed for both independent variables highlight the importance of balanced financial management to sustain long-term profitability.

Hypothesis Testing

t-test (Partial Test)

Table 9. Partial Test Results

Coefficient Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.537	.156		3.450	.002
	CR	-.145	.048	-.837	-3.033	.005
	DAR	-.632	.212	-.823	-2.983	.005

a. Dependent Variable: ROA

Source: Data processed with SPSS 25

Based on the regression output, the t-test results show that the **Current Ratio (CR)** has a t-count value of **-3.033**, which is smaller than the critical t-table value of **-2.032**. In addition, the significance level for CR is **0.005**, which is below the 0.05 threshold. These results indicate that the effect of CR on Return on Assets (ROA) is statistically significant at the 5% level. Given the negative sign of the coefficient and t-value, it can be concluded that **CR has a significant negative effect on ROA**, thus supporting the acceptance of **H1** and the rejection of the null hypothesis (**H0**).

Similarly, the **Debt to Asset Ratio (DAR)** also shows a t-count value of **-2.983**, which is likewise smaller than the critical value of **-2.032**. The corresponding significance level for DAR is **0.005**, which also meets the criterion for statistical significance. Therefore, it can be concluded that **DAR has a significant negative effect on ROA**, confirming the acceptance of **H2** and the rejection of the null hypothesis.

These findings suggest that both liquidity and solvency, when evaluated individually, have a meaningful inverse influence on the profitability of PT Astra International Tbk during the observed period.

F Test (Simultaneous Test)

The results of the F-test indicate that the calculated F-value is **4.940**, while the critical value from the F-table with degrees of freedom df1 = 2 and df2 = 33 is **3.285**. Since the calculated F-value is greater than the F-table value (**4.940 > 3.285**), this provides initial evidence that the model is statistically significant. In addition, the significance level (p-value) associated with the F-statistic is **0.013**, which is below the standard threshold of **0.05**. This confirms that the regression model is significant at the 5% level. Therefore, it can be concluded that the independent variables, namely the **Current Ratio (CR)** and **Debt to Asset Ratio (DAR)**, **simultaneously have a significant effect on Return on Assets (ROA)**. These findings support the acceptance of **hypothesis H3**, while rejecting the null hypothesis, indicating that the combined contribution of liquidity and solvency explains a meaningful portion of the variation in profitability.

Table 10. Simultaneous Test Results

ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.005	2	.002	4,940	.013b
	Residual	.015	33	.000		
	Total	.020	35			

a. Dependent Variable: ROA

b. Predictors: (Constant), DAR, CR

Source: Data processed with SPSS 25

Coefficient of Determination Test (R2)

Based on the regression output, the **coefficient of determination (R Square)** is obtained at **0.230**. This indicates that approximately **23% of the variability in Return on Assets (ROA)** can be explained by the independent variables in the model, namely **liquidity (CR)** and **solvency (DAR)**. In other words, the model demonstrates that CR and DAR contribute to 23% of the changes in profitability during the study period. The remaining **77%** of the variation in ROA is attributed to other factors not included in this analysis, such as operational efficiency, sales growth, asset turnover, macroeconomic conditions, or other financial indicators.

Table 11. Results of the Determination Coefficient Test

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.480a	.230	.184	.021526	1,868

a. Predictors: (Constant), DAR, CR

b. Dependent Variable: ROA

Source: Data processed with SPSS 25

Although the explanatory power of the model is moderate, the statistical significance of the variables suggests that liquidity and solvency still play an

important role in influencing company profitability, particularly when managed effectively in the context of long-term financial strategy.

B. Discussion

The results of this study indicate that liquidity, proxied by the Current Ratio (CR), has a negative and significant effect on profitability, as measured by Return on Assets (ROA). This inverse relationship implies that an increase in CR is associated with a decline in ROA. Such a finding suggests that the firm may be maintaining excessive current assets which are not optimally utilized to generate profits. In the context of PT Astra International Tbk, this could reflect idle assets or inefficient working capital management. When current assets increase without a proportional rise in net income, overall asset productivity, as reflected in ROA, will decline. This result reinforces the idea that maintaining too much liquidity can lead to opportunity costs, especially in capital-intensive industries. These findings are consistent with the study of Sukmayanti and Triaryati (2019) and further supported by Iswari et al. (2023), who found that liquidity, measured through the cash ratio, could influence firm valuation indicators but does not necessarily enhance financial performance unless aligned with other strategic variables such as payout policy.

Furthermore, solvency, as measured by the Debt to Asset Ratio (DAR), also demonstrates a negative and significant effect on ROA. This suggests that increasing the proportion of debt relative to assets tends to reduce profitability. For Astra, with an average DAR ranging from 41% to 49%, the financing structure reflects a considerable reliance on debt. This can lead to higher interest obligations, which reduce net income and thereby diminish ROA. This aligns with the trade-off theory, which emphasizes the balancing act between the tax benefits of debt and the financial distress it may cause. The negative effect of DAR on profitability is consistent with findings by Meilisa et al. (2023) and also in line with Iswari, Salim, and Djazuli (2019), who highlighted that funding decisions, when not optimally managed, tend to reduce financial performance in capital-intensive sectors such as real estate and property.

Simultaneous testing confirms that both liquidity and solvency significantly affect profitability. This result highlights the importance of holistic financial management in maintaining a balance between short-term financial flexibility and long-term financial stability. In PT Astra International Tbk, the interaction between current asset management and debt policy is crucial for sustaining profitability, particularly amid economic fluctuations. An optimal blend of liquidity and solvency allows firms to leverage opportunities while mitigating financial risks. From a broader perspective, this finding aligns with the notion of value-added creation, where strategic alignment between financial structure and asset productivity leads to improved performance outcomes, as discussed by Iswari et al. (2019) in their investigation of intellectual capital, corporate policy, and financial performance.

In conclusion, the findings from this study contribute to the growing body of literature on financial management and firm performance by empirically demonstrating how key financial ratios—liquidity and solvency—jointly shape profitability outcomes in large, diversified firms operating in dynamic economic environments.

4. Conclusion and Suggestions

This study concludes that **liquidity**, as measured by the **Current Ratio (CR)**, has a **negative and significant effect** on **profitability** (Return on Assets/ROA) in the context of PT Astra International Tbk for the period 2015–2023. This indicates that a higher level

of liquidity does not always correlate with increased profitability. Excessive current assets, if not utilized effectively, may lead to inefficiencies and reduce the firm's ability to generate optimal returns from its resources.

Similarly, **solvency**, as proxied by the **Debt to Asset Ratio (DAR)**, also demonstrates a **negative and significant impact** on profitability. A higher DAR reflects a greater reliance on debt financing, which increases financial risk through interest obligations and consequently suppresses net income. This suggests that although debt may facilitate asset expansion, it may not necessarily translate into profitability if not strategically managed.

Moreover, the study finds that **liquidity and solvency simultaneously have a significant influence on profitability**, underscoring the importance of maintaining a well-balanced financial structure. Efficient management of short-term obligations alongside prudent use of long-term financing is essential to ensure financial sustainability and optimal returns.

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